

Family Soleidae

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Body oblong or ovate, color on right side. Eyes moderate or small, upper more or less advanced, on right side and separated by distinct bony ridge. Mouth small, more or less twisted towards blind side. Teeth little developed, in villiform band. Preopercle edge adnate, usually concealed by skin and scales. Gill opening more or less narrowed. Gill membranes adnate to shoulder girdle above. Scales usually ctenoid, rarely absent. Blind side of head usually with fringes. Lateral line straight, usually

22157. Cammahala Bay, Ragay Gulf. ⁷⁵⁷
March 11, 1909. Length 90 mm.

18860. Inamucan Bay. August 8, 1909.
Length 91 mm.

15960. Masbate Reef. April 20, 1908.
Length 84 mm.

17136 and 17137. Murcielagos Bay.
August 20, 1909. Length 85 to 95 mm.

21602. Pascao, Ragay Gulf. March 9,
1909. Length 80 mm.

12587. Rapu Rapu Island. June 22, 1909.
Length 92 mm.

3617 [1272]. Refugio Island, Pasacao,
Luzon. March 9, 1909. Length 92 mm.

20050. Romblon. March 26, 1908. Length
88 mm.

4826 [452]. Romblon Harbor. March 25, 1908.
Length 95 mm.

4751. San Miguel Island, Tabaco Bay.
June 4, 1909. Length 92 mm.

single. Pectoral small, sometimes absent. Ventrals with long bases, confluent with anal, -one or both sometimes obsolete.

Small fishes of sandy bottoms, those of sufficient size valued as food.

and brilliant blue edge. Pectoral black.
Ventral with first membrane blue.

Length 139 mm.

(Playfair.)

Quite likely Holacanthus somevilli
is the young, as it is based on an
example but 64 mm. long.

Analysis of Genera

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a. Ventrals symmetrical or largely so, largely free from anal; snout not prolonged in hook.

b. Dorsal and anal free from caudal.

c. Pectorals present on both sides.

d. Gill openings on eyed side ends opposite lower edge of lower pectoral bases.

e. Hind dorsal and anal rays short.

e.² Hind dorsal and anal rays more or less elongate and united with caudal fin.

d.² Gill opening of eyed side ends opposite upper part of pectoral base.

f. Hind dorsal and anal rays connected only with caudal base; A. 78 to 82.

f.² Hind dorsal and anal rays connected with at least basal third of caudal fin; A. 56 to 71.

Gobiidae.

g. Scales ctenoid; first dorsal ray not enlarged. Gobiidae.
g.² Scales cycloid; first dorsal ray enlarged, free. Gobiidae.

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c.² Pectorals absent; lateral line with more or less distinct accessory branch on blind side.

~~f.~~^{h.} Ventral free from anal.
Aseraggodes.

~~f.~~^{h.} Right ventral with long base, connected with anal.

Pardachirus.
b.² Dorsal and anal confluent with caudal.

i.¹ Pectoral present, well developed or rudimentary.

Phyllichthys.

i.² Pectoral absent. Achiroides.

a.² Ventrals greatly asymmetrical, right one median, elongate and joined to anal; snout prolonged in hook.

Heteromycerus.

Genus Solea Duense

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Solea Duense, Kon. Vet. Akad.

Nya Handl. Stockholm, vol. 27,
pp. 44, 203, 1806. (Type Pluronectes
solea Linnaeus, tantotypic.)

Pegusa Günther, Cat. Fishes Brit.

Mus., vol. 4, pp. 462, 467, 1862.

(Type Solea aurantiaca Günther,
designated by Jordan, Genera of
Fishes, pt. 3, p. 319, 1919.)

Microbuglossus Günther, Cat. Fishes

Brit. Mus., vol. 4, pp. 462, 471, 1862.

(Type Solea humilis Cantor, designated
by Jordan, Genera of Fishes, pt. 3,
p. 319, 1919.)

and 47893

47827 U. S. N. M. New Guinea.

Australian Museum. Length 110 mm.
2 examples.

52301 U. S. N. M. Samoa. Bureau of
Fisheries. Length 60 to 132 mm. 4 examples.

56995 U. S. N. M. Pago Pago. Bureau
of Fisheries. Length 96 to 144 mm. 11 examples.

Eyes on right side. Mouth ²³⁴⁸
curved, asymmetrical. Minute
teeth in left jaws, absent or
feeble in right jaws. Nostrils of
blind side not dilated. Gill
membranes confluent, free from
isthmus. Scales ctenoid on both
sides of body. One straight axial
lateral line. Scales on left side
of head often partially transformed
into fringed cutaneous flaps.
Dorsal and anal rays simple or
divided, in caudal always branched.
Dorsal begins on snout. Dorsal
and anal separated from caudal.
Both pectorals present. Ventrals

3618. Refugio, Pasacao, Luzon.
March 9, 1909. Length 95 mm.

1291, 22772. Vitambi Reef. September
24, 1909. Length 80 to 92 mm.

457. Talissi Island. November 9, 1909.
Length 101 mm.

[2132] Tomahi Island. December 11,
1909. Length 33 mm.

17984. Limbe Strait, Celebes. November
10, 1909. Length 102 mm.

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symmetrical or nearly so, not
united with anal.

Eastern Atlantic, Indian and
Pacific Oceans. Weber and
Beaufort have placed Solea
margaritifer Günther, alleged

'Cat. Fishes Brit. Mus., vol. 4, p.
468, 1862.

to have come from Borneo (evidently
wrongly), as a synonym of the
Mediterranean Solea lascaris.

739

3913, 3914, 6555. Port Maricaban.
July 21, 1908. Length 87 to 113 mm.

413 and [1578]. Port Calapag, near
northern Samar. June 3, 1909. Length
102 to 107 mm. 2 examples. Differ from
Bleeker's figure in dark portions
entirely black. Front portion of body
dusky cadmium-above, sulphur on
belly. Margin adjacent to black posterior
portion sulphur yellow. Orange spot
behind eye-above angle of gill opening.
Opercle flap orange-and dash of same
across chin and lower eye edge orange.
Upper edge of soft dorsal very narrowly
orange; dorsal and anal otherwise black.
Caudal cadmium, with sulphur basal
line. Paired fins pale cadmium.

2350

Horman has examined the type
of Solea indica Günther and

1 Cat. Fishes Brit. Mus., vol. 4,
p. 474, 1862 (type locality: "Madras").
— Day, Fishes of India, pt. 3,
p. 446, 1877; Fauna British
India, Fishes, vol. 2, p. 446,
1889.

found it to be a wrongly labeled
example of Achirus lineatus
(Linnaeus).

Holacanthus bicolor (Bloch).

Chaetodon bicolor Bloch, Naturg. Ansl.

Fische, band 3, 1787, p. 94, plate 206,

fig. 1. Both Indies. — Gmelin, Syst. Nat.

Linn., 1789, p. 1258 (Tropical America

and India). — Walbaum, Arted. Pisc.,

vol. 3, 1792, p. 418 (in Bloch). — Forster,

Famn. Indica, 1795, p. 15. — Schneider,

Syst. Ichth. Bloch, 1801, p. 218 (Tropical

America and East Indies).

Chetodon bicolor Bonnaterre, Tabl. Ichth.,

1788, p. 93, plate 97, fig. 396 (East Indies).

Holacanthus bicolor Lacépède, Hist. Nat.

Pois., vol. 4, 1803, pp. 527, 535 (East Indies).

— Cuvier, Hist. Nat. Poiss., tome 7, 1831, p. 126¹⁶⁷

(East Indies). — Günther, Cat. Fish. Brit.

Mus., vol. 2, 1860, p. 50 (East Indies). —

Günther, Journ. Mus. Godeffroy, band 2-3,
left 5-6, 1874, p. 51, plate 39, fig. B (Samoa,

Solomons, Hawaii). — Bleeker, Atlas

Solea trichodactylus (Linnaeus)

Pleuronectes trichodactylus

Linnaeus, Syst. Nat., ed. 10, pt. 1, p.

268, 1758 (type locality: Amboina);

ed. 12, pt. 1, p. 455, 1766. — Bonnaterre,

Tabl. Ichth., p. 73, 1788 (Amboina).

— Gmelin, Syst. Nat. Linn., p. 1226,

1789. — Forster, Fauna Indica,

p. 14, 1795. — Schneider, Syst. Ich.

Bloch, p. 147, 1801 (Amboina). —

Lacépède, Hist. Nat. Poiss., vol. 4,

pp. 596, 641, 1802 (Amboina).

Solea trichodactylus Kaup, Archiv

Naturges., vol. 24, pt. 1, p. 95, 1858

(Paris Museum specimen from

Bengal). — Günther, Cat. Fishes

7965. Danawan and Si Amil Island. September 27, 1908. Length 87 mm.

3885. Gandra Island. September 20, 1909. Length 94 mm.

3635 and 3636. Teomabal. September 18, 1909. Length 80 to 115 mm.

4786. Labuan, Blanda Island. December 14, 1909. Length 110 mm.

3930. Malayan Island. November 29, 1909. Length 81 mm.

4862. Mucelagor Bay, Mindanao. August 21, 1909. Length 90 mm.

3894. Apol, Mindanao. August 4, 1909. Length 107 mm.

4849, 4850, 21441. Campan, Tapa Island. September 20, 1909.

1 example. Philippines. Length 62 mm.

2352

Brit. Mus., vol. 4, p. 472, 1862 (compiled).
— Bleeker, Atlas Ichth. Ind. Néerl.,
vol. 6, p. 17, 1866-72 (copied). —
Weber and Beaufort, Fishes Indo
Austral. Archip., vol. 5, p. 150, 1929
(Kaup's specimen).

Monochirus trichodactylus Jouan,
Mém. Soc. Sci. Nat. Cherbourg, vol.
13, p. 274, 1867.

— Chu, Biol. Bull. St. John's
Univ., ~~Shanghai~~ Shanghai, No. 1, p. 93,
Jan. 1931 (reference).

vertical in last rays. Iris pale or whitish, black of superior blotch only invading above. Supraocular blackish blotch with whitish border in front and behind, also front border of dark body area with broad whitish border. Upper edge of soft dorsal narrowly whitish and lower anal edge narrowly bluish. Pinned fins whitish.

East Indies, ^{Melanesia,} Melanesia, Polynesia.
Its coloration is greatly suggestive of the American Holocentrus tricolor.

Solea irrorata Rüppell

2353

Solea irrorata Kuhl, in Rüppell,
Samm. Senckenberg. Mus., p.
19, 1852 (type locality: Java Sea).
— Weber and Beaufort, Fishes
Indo Austral. Archip., vol. 5,
p. 150, 1929 (note).

736

Depth $1\frac{7}{8}$ to 2; head $3\frac{1}{3}$ to $3\frac{1}{2}$, width $1\frac{2}{3}$ to 2. Snout $2\frac{3}{4}$ to 3; eye 3 to $3\frac{2}{3}$, 1 to $1\frac{2}{3}$ in snout, equal to slightly greater than interorbital; maxillary reaches opposite nostrils, 4 to $4\frac{1}{3}$ in head; interorbital $3\frac{1}{2}$ to $3\frac{3}{4}$, broadly convex; preopercle spine along upper edge 2 to $3\frac{3}{4}$. Gill rakers 4 to 12, lanceolate, short, strong, $\frac{1}{4}$ of gill filaments, which $1\frac{1}{5}$ in gape.

Scales 45 to 48 between gill opening and caudal base; 7 or 8 scales above lateral line, 20 to 22 below. Scales with 5 to 12 basal radiating striae; apical denticles 17 to 29, each with long slender rootlet; circuli fine.

D. XIV or XV, 15, I or 16, I, last spine $1\frac{1}{3}$ to 2 in head, seventh dorsal ray $2\frac{2}{3}$ to $3\frac{1}{4}$ in combined head and body; A. III, 17, I or 18, I, third spine $1\frac{2}{5}$ to $1\frac{3}{5}$ in head, ninth ray $2\frac{4}{5}$ to $3\frac{1}{3}$ in combined head and body; least depth of caudal peduncle $1\frac{1}{8}$ to $2\frac{1}{10}$ in head; caudal convex behind, 1 to $1\frac{1}{10}$; pectorals, 1 to $1\frac{1}{8}$; ventral 3 to $3\frac{3}{4}$ in combined head and body.

Anterior $\frac{2}{5}$ of body yellowish-white, also hind half of caudal peduncle and entire caudal fin. From occiput broad blackish-brown band to eye. Posterior half of trunk and tail blackish-brown, each scale within its area with dark blue basal blotch; also vertical fins with dark blue transverse or oblique dark lines, most distinct and nearly

Solea elongata Day

Solea elongata Day, Fishes of India,
pt. 3, p. 426, pl. 90, fig. 4, 1877
(type locality: Madras); Fauna
British India, Fishes, vol. 2, p.
445, 1889. — Norman, Rec. Indian
Mus., vol. 30, pt. 2, p. 175, fig. 1a
(blind side of head), July 1928
(north end of Persian Gulf; Persian
Gulf; Trincomali, Ceylon).

2355

Solea heimii Steindachner

Solea heimii Steindachner, Denks.
Abad. Wiss. Wien, math.-nat. Kl.,
vol. 71, p. 153, pl. 1, fig. 3, 1902
(type locality: Gischin, south
Arabia). — Norman, Rec. Indian
Mus., vol. 30, pt. 2, p. 176, July
1928 (Mekran coast; type of
Solea sindensis).

Solea sindensis Jenkins, Rec.
Indian Mus., vol. 5, p. 133, 1910
(type locality: Karachi); Mem.
Indian Mus., vol. 7, pl. 3, fig. 2,
1910.

Solea ovata Richardson ²³⁵⁶

Solea ovata Richardson, Ichth.

China Japan, p. 279, 1846 (type locality: China Seas; Canton).

— Cantor, Journ. Asiatic Soc. Bengal, vol. 18, pt. 2, p. 1202, 1849 (1850) (Pinang Sea). — Günther, Cat.

Fishes Brit. Mus., vol. 4, p. 472, 1862 (China). — Day, Fishes of India, pt. 3, p. 426, pl. 93, fig. 1, 1877 (Madras). — Günther, Rep.

Voy. Challenger, vol. 1, pt. 6, p. 53 (Philippines), p. 55 (off Hong Kong), 1880. — Day, Fauna British India, Fishes, vol. 2, p. 445, 1889. — Alcock,

Journ. Asiatic Soc. Bengal, vol. 58, pt. 1, no. 3, p. 285, 1889 (Bengal Bay). — Seale, Philippine Journ. Sci., vol. 9, p. 78, 1914 (Hong

Kong). — Norman, Rec. Indian Mus., vol. 30, pt. 2, p. 176, fig. 2, July 1928 (Vasco Bay, Portuguese India; and Sandy Bay,

Madras; Orissa) . — Wu, Contrib. ²³⁵⁷
Biol. Lab. Sci. Soc. China, vol. 5,
no. 4, p. , 1929 (Amoy) . — Chu,
Biol. Bull. St. John's Univ.
Shanghai, no. 1, p. 92, Jan. 1931
(reference).

Solea (Microbuglossus) ovata
Bleeker, Nederl. Tijds. Dierk.,
vol. 4, p. 130, 1873 (1874) (Canton;
Amoy).

Solea humilis Cantor, Journ. Asiatic
Soc. Bengal, vol. 18, pt. 2, p. 1201, 1849
(1850) (type locality: Sea of Pinang).
— Günther, Cat. Fishes Brit. Mus.,
vol. 4, p. 471, 1862 (type; Pinang;
Bleeker's specimen) . — Kner,
Reise Novara, Fische, p. 288, 1865
(“Sidney” [error]) . — Bleeker,
Atlas Ichth. Ind. Néerl., vol. 4,
p. 16, pl. (6) 237, fig. 11 (Java;
Pinang) . — Weber and Beaufort,

Fishes Indo Austral. Archip., vol.
5, p. 148, 1929 (Java Sea; Java).
Microbuglossus humilis Jordan
and Seale, Bull. Bur. Fisher.,
vol. 46, p. 26, 1906 (1907) (Cavite).
— Jordan and Richardson, Bull.
Bur. ~~Fish.~~ Fisher., vol. 27, p. 54,
1907 (1908) (Manila). — Seale,
Philippine Journ. Sci., vol. , p.
287, 1910 (Sandakan, Borneo). —
McCulloch, Austral. Mus. Mem.,
no. 5, pt. 2, p. 283, Sep. 10, 1929
(reference).

Solea maculata Kuhl and Van Hasselt,
in Bleeker, Natuurk. Tijds. Ned.
Indië, vol. 1, p. 409, 1851 (type
locality? Batavia; name in
synonymy). — Kaup, Archiv
Naturges., vol. 24, pt. 1, p. 95, 1858
(Java).

Depth $2\frac{1}{5}$ to $2\frac{1}{4}$; head $3\frac{2}{3}$ to $3\frac{7}{8}$, width 3 to $3\frac{1}{4}$. Snout end to lower orbit $3\frac{1}{5}$ to $3\frac{1}{4}$ in head; lower orbit $4\frac{1}{2}$ to $4\frac{2}{3}$, $1\frac{1}{4}$ to $1\frac{1}{2}$ in snout; upper orbit advanced $\frac{1}{3}$ to $\frac{2}{5}$ from lower; mouth cleft extends $\frac{2}{5}$ to $\frac{1}{2}$ in lower orbit; length $2\frac{3}{4}$ to 3 in head; ^{nasal tube long as pupil;} scaly interorbital $1\frac{2}{5}$ to $1\frac{1}{2}$ in lower orbit, concave. Gill rakers 3 + 9 short rudimentary points; gill filaments $1\frac{1}{5}$ in lower orbit.

Scales 88 to 90 in lateral line from above gill opening to caudal base and 7 or 8 more on latter (7 more forward to dorsal intersection); 32 above, 40 to 42 below. All scales ctenoid. Scales with 8 or 9 basal radiating

Cuv¹⁷⁹ Lethrinus hypselopterus Bleeker

Lethrinus hypselopterus Bleeker, Nederl.

Tijdschr. Dierk., vol. 4, 1873, p. 326.

Benculen, Sumatra; Singapore; Java;

Abi major; Solor; Waigiu; Atlas Ichth.

Ind. Néerland., vol. 8, 1876-77, p. 114,

pl. (52) 330, fig. 3 (Sumatra, Singapore,

Java, Abi major, Solor, Waigiu). $\frac{1}{m}$

→ Evermann and Seale, Bull. Bur. Fisher.,

vol. 26, 1906 (1907), p. 86 (Philippines). $\frac{1}{m}$

Herre and Montalban, Philippine Journ.

Sci., vol. 33, no. 4, 1927, p. 419, pl. 4, fig. 1

(Zamboanga and Davao; Tambagaan and

Bungan Island). $\frac{1}{m}$ Fowler, Proc. Acad.

Nat. Sci. Philadelphia, 1927, p. 282 (Santa

Maria; Calapan); Mem. Bishop Mus.,

vol. 10, 1928, p. 216 (compiled).

striae; 9 or 10 long slender apical denticles with 4 series transversely of basal elements; circuli fine, continuous. Lateral line on both sides, continuous. Blind side of head anteriorly with many billose slender cutaneous flaps or tentacles.

D. 57 to 59, fin height $1\frac{9}{10}$ to $2\frac{1}{8}$ in head; A. 42 or 43, fin height $1\frac{7}{8}$ to 7; caudal $1\frac{1}{3}$ to $1\frac{2}{5}$, rounded behind; pectoral $1\frac{4}{5}$ to $2\frac{1}{8}$; ventral $2\frac{7}{8}$ to 3.

Right side mouse gray to drab, mottled or speckled with dark brown to neutral black. Along dorsal base on body 6 or 7 gray white blotches also similar series on body above anal base. Orbits dark neutral gray. Dark

fifth ray $2\frac{1}{2}$; A. III, 8 or 9, third spine $3\frac{1}{5}$, first ray $2\frac{1}{3}$; caudal $1\frac{1}{4}$, slightly emarginate; least depth of caudal peduncle 3; pectoral $1\frac{2}{5}$; ventral $1\frac{1}{3}$.

Olivaceous above, below yellowish rosy. Iris yellowish. Snout and cheeks without spots or lines. Above middle of pectoral below lateral line round blackish brown blotch. Ten or 11 transverse dark bands on body. Fins golden or yellowish pink, except pectoral rays all marked with dark spots. Length 115 mm. (Bleeker.)

East Indies, Philippines, Micronesia. Herre and Montalban report it to 131 mm. in length.

or blackish specks of body
extend over vertical fins.

Pectoral mottled gray and darker,
more or less blackish terminally.

Ventral like anal. Left side
whitish, dark specks on vertical
fins grayish, obsolete. Left
paired fins whitish.

India, Malaya, East Indies,
Philippines, China.

abstract, vol. 1, no. 5, March 31, 1927, p. 131
 (compiled). $\frac{1}{m}$ Herre and Muntalban,
 Philippine Journ. Sci., vol. 33, no. 4, Aug.
 1927, p. 404, pl. 2, fig. 1 (Orani, Tendo,
 Calapan, Bacon, Concepcion, Dipoloy).
 $\frac{1}{m}$ Fowler, Mem. Bishop Mus., vol. 10, 1928,
 → p. 216 (part; not Upia specimen). —
Lethrinus jagorii Peters, Monatsber. Akad.
 Wiss. Berlin, 1868, p. 257. Paracali, Luzon.
 $\frac{1}{m}$ Bleeker, Nederland. Tijdschr. Dierk.,
 vol. 4, 1874, p. 332 (compiled).

Depth $3\frac{1}{3}$; head $2\frac{7}{8}$. Snout 2 in head;
 eye $3\frac{1}{3}$, $1\frac{3}{5}$ in snout, maxillary reaches
 $\frac{4}{5}$ to eye, length $2\frac{4}{5}$ in head; teeth
 conic; interorbital low.

Scales 48 in lateral line, 5 above,
 15 below, predorsal scales extending
 forward opposite hind eye edge; few
 small scales on postocular.

D. X, 9 or 10, third spine $2\frac{1}{2}$ in head,

2362

8044 to 8046. Manila market.
March 18, 1908. March 18, 1908.
Length 35 to 58 mm.

6966. Manila market. April 14, 1909.
Length 39 mm.

19757. Manila market. April 20, 1909.
Length 50 mm.

2 examples. Manila market. April
21, 1909. Length 34 to 40 mm.

11960, 11961. Manila market.
April 22, 1909. Length 43 to 48 mm.

1 example. Manila market. April
29, 1909. Length 44 mm.

20650. Manila market. June 13, 1908.
Length 46 mm.

9080. Manila market. June 24, 1908.
Length 49 mm.

19426. ²³⁶³ Vossogon market. March
12, 1909. Length 71 mm.

20234. Sandakan Bay, Borneo.
March 2, 1908. Length 62 to 67 mm.

Genus Brachirus Swainson

2364

Brachirus Swainson, Nat. Hist. Animals, vol. 2, p. (187) 303, 1839. (Type, Pleuronectes orientalis Schneider, designated by Swain, Proc. Acad. Nat. Sci. Philadelphia, 1883, p. 281.)

Synaptura Cantor, Journ. Asiatic Soc. Bengal, vol. 18, pt. 2, p. 1204, 1849 (1850). (Type, Pleuronectes orientalis Schneider, virtually as Synaptura Cantor proposed to replace Brachirus Swainson.)

Solenoides Bleeker, in Kaup, Archiv Naturges., vol. 24, pt. 1, p. 97, 1858 (name in synonymy). (Type, Pleuronectes orientalis Schneider, here affixed.)

Euryglossa Kaup, Archiv Naturges., vol. 24, pt. 1, p. 99, 1858. (Type, Pleuronectes orientalis Schneider, monotypic.)

Anisochirus Günther, Cat. Fishes²³⁶⁵
Brit. Mus., vol. 4, pp. 480, 486,
1862. (Type, Synaptura panoides
Bleeker, designated by Jordan,
Genera of Fishes, pt. 3, p. 319,
1919.)

Eyes on right side. Mouth
curved, snout often overhanging
and mouth cleft forming hobb.
minute teeth in jaws of left
side. Front nostril of colored
side at end of shorter or larger
tube, posterior ones covered by
flap; nostril of blind side
more or less hidden by cutaneous
flap. Gill membranes united,
free from isthmus. Scales ctenoid
on colored side, cycloid - or
ctenoid on blind side. Straight
axial lateral line on both sides
of body. Scales on left side of
head often formed as cutaneous

filaments. Lower lip of colored side usually fringed. Dorsal begins on snout. Dorsal and anal confluent with caudal. Rays of vertical fins simple or divided at tips. Pectoral with well developed rays, with short base and free from branchiostegal membranes; or with broad base, rudimentary rays and connection through a folded membrane with upper part of branchiostegal membranes, forming kind of funnel-like access to branchial cavity. Ventrals short, broad based, free from each other and anal; or right ventral connected with low membrane at its hind end with genital papilla or with anal.

2367

Indian and Western Pacific
Oceans, some species entering
fresh water. I accept the name
Brachirus Swainson for these
fishes, notwithstanding the
contention that Brachyurus
of the same author is a name
with similar meaning. It is
spelled differently and
therefore Brachyurus may be
allowed distinct. Jordan and
Goss in 1889 make the mistake
in citing Pleuronectes zebra
Bloch as the type of Brachirus,
therefore not following Swain's
designation of 1883, which they
also refer to.

2368

Brachurus lipophthalmus (Károli)

Synaptura lipophthalma Károli,
Termesz. Füzetek, Budapest,
vol. 5, p. 30, 1882 (type locality:
Larawak, Borneo). — Weber and
Beaufort, Fishes Indo Austral.
Archip., vol. 5, p. 179, 1929
(copied).

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The following nomina nuda,
mentioned by Saville Kent,
likely belong in this genus:

Synaptura armata Saville-Kent,
Great Barrier Reef, p. 370, 1893
(type locality: Queensland).

Synaptura inermis Saville-Kent,
Great Barrier Reef, p. 370, 1893
(type locality: Queensland).

Brachirus albomaculatus (Kaup)²³⁷⁰

Synaptura albomaculata Kaup,
Archiv Naturges., vol. 24, pt. 1, p. 96,
1858 (type locality: Coromandel). —
Günther, Cat. Fishes Brit. Mus.,
vol. 4, p. 483, 1862 (East Indies). —
Day, Fishes of India, pt. 3, p. 429,
pl. 93, fig. 5, 1877 (Madras); Fauna
British India, Fishes, vol. 2, p.
448, fig. 161, 1889. — Norman, Rec.
Indian Mus., vol. 30, pt. 2, p. 179,
July 1928 (Madras, Canara, Puri,
Gujarat, Sundarbans, Akyab,
Coromandel, Vizagapatam).
Weber and Beaufort, Fishes Indo
Austral. Archip., vol. 5, p. 169, 1929
(Akyab, India), p. 430 (reference).

Brachirus albomaculatus ←

2371

Brachius annularis new species

Depth 3; head 5 to $5\frac{1}{8}$, width 3. Snout to lower orbit $3\frac{3}{4}$ to $4\frac{1}{3}$ in head; lower orbit $5\frac{2}{3}$ to $6\frac{1}{2}$, $1\frac{1}{4}$ to $1\frac{2}{5}$ in snout, $\frac{1}{5}$ to $\frac{1}{4}$ in advance of upper orbit; maxillary reaches $\frac{1}{3}$ in lower orbit, length 3 to $3\frac{2}{5}$ in head; right nasal tube long as pupil; interorbital scaly area wide as lower orbit length. Gill rakers about 4 + 8 very low feeble papillae; gill filaments $1\frac{1}{4}$ in lower orbit.

Scales 77 or 78 from above gill opening in lateral line to caudal base; 29 or 30 above, 37 or 38 below, in each case counted to bases of vertical fins.

Family Lethrinidae (see 12)

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Body ovate or oblong, compressed. Head compressed, pointed. Mouth low, terminal, little inclined, protractile. Maxillary without supplemental bone, mostly slips below deep preorbital. Upper teeth of jaws laterally uniserial, conic or molar. and inner anterior teeth villiform. Palate and tongue toothless. Nostrils paired. Gill membranes broadly united, free from isthmus. Gills 4, slit behind fourth. Pseudobranchiae present. Gill rakers short, knob like. Scales ctenoid, moderate in size. Lateral line simple. Subocular shelf vestigial or small. Pyloric coeca few. Cheeks naked. Top of head naked. Ventral with axillary scale. Dorsal continuous, soft and spinous parts subequal. Anal like soft dorsal. Dorsal spines 10. Caudal emarginate or lunate.

Many short filaments along lower blind edge of head. Fins all more or less scaly basally. Scales with 4 or 5 basal divergent radiating striae; 5 to 8 long strong apical denticles, with 3 or 4 transverse series of basal elements; circuli fine. Scales ~~ctenoid~~ on both sides.

D. 68 to 70, fin height $1\frac{4}{5}$ to 2 in head; A. 56 or 57, fin height $1\frac{4}{5}$ to 2; caudal $1\frac{1}{8}$ to $1\frac{1}{6}$, rounded behind; pectoral $4\frac{4}{5}$ to 6, ^{upper ray much longest and others short and feeble} no left pectoral; left ventral $3\frac{1}{3}$ to 4; anal papilla little shorter than nasal tube.

Left side fawn color shading isabella color along and on bases of vertical fins. Broad chocolate line define large slightly darker areas than body color. Chocolate

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dark bands over each lobe. Anal
pale, blackish on spinous membranes
terminally, over most of last one
and first soft dorsal membrane.
Pectoral pale. Ventral largely
blackish on membranes, especially
terminally.

Formosa, Japan.

38817 U.S.N.M. Tokyo market.
Educational Museum of Japan. Length
133 mm.

line from front of upper eye to upper front edge of snout then slopes down to snout tip; another chocolate line transversely above and behind upper eye, then curves down below ~~under~~ ^{lower} eye to chin; third line transversely above opercle and then down close behind gill opening. On body and tail 7 large blotches of slightly deeper shade than body color and all ringed or bordered by chocolate, so arranged as 2 above lateral line and 2 below, one including caudal and the other 2 on lateral line, with first twice size of second. All 5 large marginal blotches ~~are~~ extended on vertical fins, also on body each with ^{1 or 2} small

$1\frac{3}{4}$, second ray $2\frac{1}{10}$; caudal $1\frac{3}{5}$, slightly emarginate behind; least depth of caudal peduncle $5\frac{1}{10}$; pectoral $1\frac{1}{8}$; ventral 1.

Light brown, with about 8 obscure ill defined longitudinal darker bands, paler intervals on lower and under surfaces of head and body whitish. In front of head 2 dark brown bands cross interorbital connecting eyes and medially also connected by short dark brown bar; 2 bands cross snout and 1 across occipital, besides 2 others above on predorsal. Iris pale yellowish. Spinous dorsal membranes dark brown, dusky marginally and large blackish blotch over eighth and ninth. Soft dorsal pale, with 2 brown blotches and large black apical blotch. Hind preopercle edge dusky in emargination, with 2 obscure

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median dark round spot of
chocolate, along dorsal and
anal edges of body between
large annular bordering blotches
1 or 2 spots above and as many
below each of ²annular blotches
on lateral line. Vertical fins
dusky or neutral brown marginally
and in intervals between chocolate
bordering line often a small
marginal annulus or dark spot.
Caudal with chocolate bar above
and another below, delimiting more
or less upper and lower portions.
Orbits gray.

Diagnosis. Related to
B. rachius panoides (Bleeker),
B. orientalis (Schneider) and
B. villosus (Weber) in having
the eyes separated by a scaly

14

enlarged, in about 5 or 6 irregular series transversely in jaws; triangular band of rather large, low, obtuse teeth on vomer; interorbital $4\frac{1}{10}$, nearly level; preopercle edge denticulate, several of denticles little enlarged at angle. Gill rakers $6+15$, lanceolate, $1\frac{1}{8}$ in gill filaments, which $2\frac{2}{3}$ in eye.

Scales 55 in lateral line to caudal base and 6 more on latter; tubes 40 in lateral line to caudal base and 4 more on latter; 12 scales above lateral line, 21 below, 10 rows on cheek to preopercle ridge. Scales with 7 or 10 basal radiating striae; 37 apical denticles, with 7 transverse series of basal elements; circuli fine.

D. X, 12, I, third spine $1\frac{1}{10}$ in head, second ray $2\frac{1}{5}$; A. III, 7, I, second spine

2375

interorbital space. It differs, however, from these as well as all the species of the genus in the presence of large rings, enclosing darker areas, on the left side of the body.

~~Styph~~

A. V. N. M., No. , type.

1348 (type) [695], 1347
(paratype) [696]. D. 5315. China
Sea, vicinity of Formosa
(lat. $21^{\circ} 40' N.$, long. $116^{\circ} 58' E.$).
In 148 fathoms. November 5,
1908. Length 137 to 151 (type)
mm.

Brachirus annularis new species

11-10-43

Pages 2371 through 2375 either mis-
numbered or missing.

C. Wade

2376

Brachirus aspiroz (Bleeker)

Synaptura aspiroz Bleeker, Natuurk.
Tijds. Ned. Indië, vol. 3, p. 74, 1852
(type locality: Singapore); Verh.
Batavia. Genootsch., no. 9, vol. 24, p.
29, 1852 (Singapore). — Kaup, Archiv
Naturges., vol. 24, pt. 1, p. 97, 1858
(reference). — Günther, Cat. Fishes
Brit. Mus., vol. 4, p. 482, 1862 (no
locality). — McCulloch, Austral. Mus.
Mem., no. 5, pt. 2, p. 285, Sep. 10, 1929
(compiled).

Synaptura aspiroz Weber, Siboga Exped.,
vol. 57, p. 440, 1913 (Salomakie). —
Weber and Beaufort, Fishes Indo
Austral. Archip., vol. 5, p. 170, 1929
(Singapore, Dammur, Arn).

Brachirus aspiroz Ogilby, Proc. Roy. Soc.
Queensland, vol. 23, p. 36, 1910 (Crocker
Island, North Australia). ✓

— Norman, Biol. Res. Endeavour, vol. 5, pt. 5, p.
244, June 15, 1926 (compiled).

Archiv Naturges., vol. 24, pt. 1, p. 97, 1858
(name).

Brachirus aspiroz (Bleeker)

Synaptura aspiroz Bleeker, Natuurk.
Tijds. ned. Indië, vol. 3, p. 74, 1852
(type locality: Singapore); Verh.
Batavia. Genootsch., no. 9, vol. 24, p.
29, 1852 (Singapore). — Kaup, Archiv
Naturges., vol. 24, pt. 1, p. 97, 1858
(reference). — Günther, Cat. Fishes
Brit. Mus., vol. 4, p. 482, 1862 (no
locality). — McCulloch, Austral. Mus.
Mem., no. 5, pt. 2, p. 285, Sep. 10, 1929
(compiled).

Synaptura aspiroz Weber, Siboga Exped.,
vol. 57, p. 440, 1913 (Salomakie). —
Weber and Beaufort, Fishes Indo
Austral. Archip., vol. 5, p. 170, 1929
(Singapore, Dammur, Aru).

Brachirus aspiroz Ogilby, Proc. Roy. Soc.
Queensland, vol. 23, p. 36, 1910 (Crocker
Island, North Australia). ✓

Synaptura marmorata Bleeker, Natuurk.
Tijds. ned. Indië, vol. 5, p. 90, 1853
(type locality: Lawajong, Solor). — Kaup,
Archiv Naturges., vol. 24, pt. 1, p. 97, 1858
(name).

on
right
side
mouth
C
C

Length 560 mm. April 3, 1908.

Length 560 mm.

1504. Endeavour & Trit. November 12, 1908

2377

Synaptura heterolepis Bleeker, Act.
Soc. Sci. Ind. Néerl. (Amboina), vol.
1, p. 65, 1856 (type locality: Amboina).
— Günther, Cat. Fishes Brit. Mus.,
vol. 4, p. 482, 1862 (Amboyna);
Brachirus heterolepis Bleeker, Atlas
Ichth. Ind. Néerl., vol. 6, p. 20, pl. (5)
236, fig. 2, pl. (7) 238, 1866-72
(Singapore, Solor, Batjan, Timor,
Ceram, Amboina). — Fowler, Mem.
Bishop Mus., vol. 10, p. 95, 1928 (compiled).

Journ. Mus. Godeffroy, vol. 8, pt. 16,
p. 347, 1909 (New Fommernia).

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Depth $2\frac{1}{3}$ to $2\frac{2}{5}$; head $4\frac{2}{3}$ to $4\frac{4}{5}$, width $3\frac{1}{3}$ to $3\frac{2}{3}$. Snout end to lower orbit $2\frac{3}{4}$ to 3 in head; lower orbit $5\frac{1}{2}$ to 7, $1\frac{7}{8}$ to 2 in snout; upper orbit $\frac{1}{3}$ to $\frac{1}{2}$ in advance of lower; mouth cleft curved, reaches $\frac{1}{3}$ to $\frac{2}{5}$ in lower orbit, length from snout tip $2\frac{3}{4}$ to 3 in head from snout end; scaly interorbital 7 to $7\frac{1}{2}$, $1\frac{1}{5}$ to $1\frac{1}{2}$ in lower orbit, concave. No gill rakers; gill filaments long as lower orbit.

Scales from above gill opening 72 to 74 to caudal base (10 or 11 more tubular forward on head towards upper eye to dorsal intersection); 32 or 33 above, 37 or 38 below. Right scales ctenoid, left cycloid. Scales with 9 to 11 basal radiating striae; 7 or 8 rather long diverging apical denticles, with 2 or 3 series transversely of basal elements; circuli fine. Lateral line complete on both sides of body.

D. 64 to 68, fin height $1\frac{4}{5}$ to $2\frac{1}{8}$ in head; A. 52 to 55, fin height $1\frac{1}{2}$ to $1\frac{4}{5}$; caudal $1\frac{1}{3}$ to $1\frac{3}{5}$; right pectoral $2\frac{1}{2}$ to $3\frac{1}{4}$; right ventral $2\frac{1}{2}$ to 3.

Largely amber on right side, mottled with paler. Body color extends vertical fins, all of which with narrow white border formed by white tip to each ray. Orbits slate. Pectoral gray or gray white, marginally, medially blackish. Right ventral brown. Left side whitish, vertical fins blackish brown submarginally, with narrow whitish edge all around formed by white tips of rays.

Malaya, Siam, East Indies, Philippines, North Australia, Melanesia.

8410. Cebu market, Cebu. March 19, 1909.
Length 298 mm.
8455. Cebu market. March 27, 1909.
Length 346 mm.

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21757. Cebu market, Cebu.
March 28, 1909. Length 144 mm.
9315. Cebu market. August 16, 1909.
Length 254 mm.
4690, 4691. Masugbu Bay.
January 16, 1908. Length 170 to 195
mm.

20698. Ulugan Bay near mouth
of Baheli River, Palawan. December
28, 1908. Length 148 mm.

5106. Sandakan Bay, Borneo.
March 3, 1908. Length 178 mm.

2381

Brachius breviceps Ogilby

Brachius breviceps Ogilby, Proc. Roy. Soc. Queensland, vol. 23, p. 36, 1910 (Type locality: Rockhampton, Queensland).

(Synaptura breviceps McCulloch, Austral. Mus. Mem., vol. 5, pt. 2, p. 285, Sep. 10, 1929 (reference).

— Norman, Biol. Res. Endeavour, vol. 15, pt. 5, p. 295, June 15, 1925 (compiled).

Brachirus callizona (Regan)

2382

Synaptura callizona Regan, Ann. Mag. Nat. Hist., ser. 7, vol. 11, p. 57, pl. 6, fig. 2, 1903 (type locality: Arafura Sea). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 5, p. 173, 1929 (Java Sea, Madura, Arafura Sea).

2383

Brachirus cancellatus (McCulloch)

Synaptura cancellata McCulloch, Mem.
Queensland Mus., vol. 5, p. 60, pl. 8, fig.
1, July 10, 1916 (type locality: near
Freemantle, Western Australia); Austral.
Mus. Mem., no. 5, pt. 2, p. 285, Sep. 10,
1929 (reference). — Norman, Biol. Res.
Endeavour, vol. 5, pt. 5, p. 296, June 15, 1926
(compiled).

Brachirus commersoni (Lacépède)²³⁸⁴

Pleuronectes commersonnien Lacépède,
Hist. nat. Poiss., vol. 3, pl. 12, fig. 2, 1800
(not Pleuronectes commersonii Lacépède,
Hist. nat. Poiss., vol. 4, pp. 599, 654, 1802).

Brachirus commersoni Swainson, Nat. Hist.
Animals, vol. 2, p. 303, 1839 (on Jerree
Potoo A. Russell, Fishes of Coromandel,
vol. 1, p. 55, pl. 70).

↑ — Norman, Rec. Indian Mus., vol. 30, pt.
2, p. 178, July 1928 (South Canara,
Madras, Alayab, Karachi).

vol. 24, pt. 1, p. 96, 1858 (Paris Museum).
— Günther, Cat. Fishes Brit. Mus., vol.
4, p. 483, 1862 (Pinang). — Bleeker, Atlas
Ichth. Ind. Néerl., vol. 6, p. 18, pl. (4)
235, fig. 3, 1866-72 (Java, Singapore,
Pinang, Borneo). — Day, Fishes of India,
pt. 3, p. 428, pl. 94, fig. 1; Fauna British
India, Fishes, vol. 2, p. 448, 1899. —
Jenkins, Mem. Indian Mus., vol. 3, p. 29,
1910. — Weber and Beaufort, Fishes Indian

Brachirus commersoni (Lacépède) ²³⁸⁴

Pleuronectes commersonnien Lacépède,
Hist. nat. Poiss., vol. 3, pl. 12, fig. 2, 1800
(not Pleuronectes commersonii Lacépède,
Hist. nat. Poiss., vol. 4, pp. 599, 654, 1802).

Brachirus commersoni Swainson, Nat. Hist.
Animals, vol. 2, p. 303, 1839 (on Jerree
Potoo A. Russell, Fishes of Coromandel,
vol. 1, p. 55, pl. 70,

Synaptura commersoniana Cantor, Journ.
Asiatic Soc. Bengal, vol. 18, pt. 2, p. 1204,
1849 (1850) (Pinang Sea, Malay Peninsula,
Singapore). — Kaup, Archiv Naturges.,
vol. 24, pt. 1, p. 96, 1858 (Paris Museum).
— Günther, Cat. Fishes Brit. Mus., vol.
4, p. 483, 1862 (Pinang). — Bleeker, Atlas
Ichth. Ind. Néerl., vol. 6, p. 18, pl. (4)
235, fig. 3, 1866-72 (Java, Singapore,
Pinang, Borneo). — Day, Fishes of India,
pt. 3, p. 428, pl. 94, fig. 1; Fauna British
India, Fishes, vol. 2, p. 448, 1899. —
Jenkins, Mem. Indian Mus., vol. 3, p. 29,
1910. — Weber and Beaufort, Fishes Indian

Suppl. rapp. Doc. h. n. Maurice, 1856, n. 53.

[illegible]

Archip., vol. 5, p. 168, 1929 (Sumatra; ²³⁸⁵Java).

Synaptura commersoni Jerdon, Madras
Journ. Lit. Sci., vol. 17, no. 39, p. 148,
1851 (1853).

Solea russellii Bleeker, Natuurk. Tijds.
Ned. Indië, vol. 1, p. 401, 1851 (type
locality: Batavia); Verh. Batavia.
Genoot., no. 9, vol. 24, p. 15, 1852
(^{copied}~~Batavia~~).

Synaptura russellii Bleeker, Verh.
Batavia. Genoot. (Bengal. Hind.), vol.
25, p. 76, 1853 (reference).

Solea bimarginata Van Hasselt, in
Bleeker, Atlas Ichth. Ind. Néerl.,
vol. 6, p. 19, 1866-72 (type locality;
Pondicherry). (name in synonymy.)

2382

Brachius craticulus (McCulloch)

Synaptura craticulus McCulloch, Mem.
Queensland Mus., vol. 5, p. 62, pl. 9, fig. 1,
July 10, 1916 (type locality: near Bowen,
Queensland); Austral. Mus. Mem.,
vol. 5, pt. 2, p. 285, Sep. 10, 1929
(reference). — Horman, Biol. Res.
Endeavour, vol. 5, pt. 5, p. 296, June 15,
1926 (reference).

Brachirus fasciatus (Macleay)²³⁸⁷

Synaptura fasciata Macleay, Proc. Linn.
Soc. New South Wales, vol. 7, pt. 1, p. 14,
May 23, 1882 (type locality: Port Jackson);
Mc Culloch, Austral. Mus. Mem., no. 5,
pt. 2, p. 285, Sep. 10, 1929 (reference).

(— Ogilby, Cat. Fish. New South Wales, p. 33,
1887. — Waite, Mem. Austral. Mus., vol.
4, p. 126, pl. 31, 1899. — Stead, Edible
Fish. New South Wales, p. 107, 1908.

— Mc Culloch, Mem. Queensland Mus.,
vol. 5, p. 61, pl. 8, fig. 2, 1916; Austral.
Zool., vol. 2, p. 46, pl. 13, 1921. — Horman,
Biol. Res. Endeavour, vol. 5, pt. 5, p. ~~45~~,
~~46~~, 295, June 15, 1925 (compiled). —

Brachius fitzroiensis (de Vis)²³⁸⁸

Synaptura fitzroiensis de Vis, Proc.
Linn. Soc. New South Wales, vol. 7, pt. 3,
p. 319, Oct. 28, 1883 (type locality:
Fitzroy River, Queensland); McCulloch,
Mem. Austral. Mus., no. 5, pt. 2, p.
286, Sep. 10, 1929 (reference).

2389.

Brachirus megalepidoura new species

Depth $2\frac{1}{5}$ to $2\frac{2}{5}$; head $4\frac{1}{2}$ to $4\frac{7}{8}$, width 3 to $3\frac{1}{4}$. Snout end to lower orbit $3\frac{1}{4}$ to $3\frac{1}{2}$ in head; lower orbit $5\frac{2}{5}$ to 6, 1 to 2 in snout, ^{maxillary} reaches $\frac{1}{4}$ to $\frac{2}{5}$ in lower orbit, ^{mouth cleft} length $2\frac{4}{5}$ to $3\frac{1}{5}$ in head; interorbital $2\frac{1}{2}$ to 3 in lower orbit. Gill rakers absent; gill filaments subequal with lower orbit.

Scales 62 to 66 in lateral line, ^{from above gill opening} to caudal base (8 or 9 more forward on head to dorsal intersection); 28 or 29 above, 26 to 28 below. All scales strongly ctenoid. Along lateral line posteriorly scales all more or less enlarged, those directly above and below largest. Vertical fins all finely scaled basally on both sides of body. Scales of right side with scattered, slender, dark, cutaneous filaments, usually small patch at caudal base. Scales with 20 to 30 nearly parallel basal striae;

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17 to 30 slender apical denticles, with
1 to 3 transverse series of basal
elements; circuli fine.

^{in head} D. 59 to 61, fin height $1\frac{2}{3}$ to
 $2\frac{1}{4}$; A. 47 to 49, fin $1\frac{7}{8}$ to 2;
caudal $1\frac{1}{5}$ to $1\frac{3}{5}$, convex behind;
pectoral $6\frac{1}{2}$ to 7; ventral 3 to $3\frac{3}{4}$.

Right side brown, more or less
uniform, only relieved by few scattered
tufts of dark filaments producing
somewhat spotted appearance. Orbits
gray. Left side paler to whitish,
with vertical fins submarginally
dark brown, rays narrowly tipped
with whitish.

Diagnosis. Most closely related
to Brachius macrolepis (Bleeker),
especially as figured by Norman
from an example 135 mm long from
Orissa. My species differs at
once in the greatly smaller scales
on the head and the greatly
enlarged scales about the lateral
line or medial axis of the body
in its posterior half. Moreover

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all the scales about the edges of the body over the bases of all the vertical fins are greatly reduced, very numerous and crowded. They not only extend on the fin rays but also nearly over the entire basal half of all the vertical fins. They have in addition a few widely scattered small dark spots on both fins and body - on the right or colored side due to scattered patches of blackish filaments.

U. S. N. M., 20. type.

1819, 1820, 1822. D. 5204. Mariguit-daguit Island, N. 88° E., 3.50 miles (lat. $11^{\circ}04'18''$ N., long. $125^{\circ}05'30''$ E.), - off east coast of Leyte. In 15 fathoms. April 11, 1908. Length 124 to 443 mm. Largest example (1822) type, others paratypes.

4266. D. 5209. Taratara Island.
(N.), S. 53° W., 1.80 miles (lat. 11°
 $45' 25''$ N., long. $124^{\circ} 48' 05''$ E.),
off western Samar. In 20 fathoms.
April 14, 1908. Length 121 mm.

8848, 8849. D. 5461. Carrigo Island.
(W.), N. 12° W., 4.9 miles (lat. $13^{\circ} 57'$
 $42''$ N., long. $123^{\circ} 06' 42''$ E.), east
coast of Luzon. In 11 fathoms.
June 14, 1909. Length 230 to 235
mm.

11-~~10~~-43

Pages 2389 through 2392 either
misnumbered or missing

E. M. Wade

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Brachirus macrolepis (Bleeker)

Synaptura macrolepis Bleeker, Act.
Ned. Sci. Ind. Néerl. (Borneo), vol. 5,
p. 7, 1858-59 (type locality:
Sinkawang, Borneo). — Günther,
Cat. Fishes Brit. Mus., vol. 4, p. 486,
1862 (copied). — Weber and Beaufort,
Fishes Indo Austral. Archip., vol.
5, p. 171, 1929 (compiled), p. 430 (reference).
Brachirus macrolepis Bleeker, Atlas
Ichth. Ind. Néerl., vol. 6, p. 20, pl.
(5) 236, fig. 3, 1866-72 (Borneo). —
Horman, Rec. Indian Mus., vol. 30,
pt. 2, p. 181, pl. 4, July 1928 (Orissa).

2394

Brachirus muelleri (Steindachner)

Synaptura mülleri Steindachner, Denks.
Akad. Wiss. Wien, Math.-nat. Kl., vol. 41,
p. 4, 1879 (type locality: Cleveland Bay
at Townsville, Queensland). —

Klunzinger, Sitzb. Ber. Akad. Wiss. Wien,
Math.-nat. Kl., vol. 80, pt. 1, p. 408, 1879
(1880) (Queensland). — Weber and
Beaufort, Fishes Indo Austral. Archip.,
vol. 5, p. 172, 1929 (compiled).

Synaptura muelleri McCulloch, Austral.
Mus. Mem., no. 5, pt. 2, p. 285, Sep. 10,
1929 (compiled).

Brachirus muelleri Horman, Biol. Res.
Endeavour, vol. 5, pt. 5, p. 295, ^{June 15} 1926.
(Gloucester Head; Bowen; types of Synaptura
arafurensis).

Synaptura arafurensis Günther, Rep.
Voy. Challenger, vol. 1, pt. 5, p. 49, 1880
(type locality: Arafura Sea, 35 fathoms).
Brachirus arafurensis Fowler, Mem.
Bishop Mus., vol. 10, p. 95, 1928 (compiled).

Brachirus orientalis (Schneider) ²³⁹⁵

Pleuronectes orientalis Schneider, Syst.
Ichth., p. 157, 1801 (type locality: Tranquebar).
Brachirus orientalis Swainson, Nat. Hist.
Animals, vol. 2, p. 303, 1839 (reference).
— Norman, Biol. Res. Endeavour, vol. 5,
pt. 5, p. 293, ^{June 15,} 1926 (Australia, New South Wales,
southern Queensland, Port Darwin);
Record. Indian Mus., vol. 30, pt. 2, p. 179, ^{fig. 3,}
July 1928 (Karachi, South Canara, Canara,
Quilon, Trivandrum, Malabar, Madras,
Emmur backwater, Chilka Lake, Cochin,
Persian Gulf, Sind, Calicut, Ceylon,
Malabar). — Chu, Biol. Bull. St.
John's Univ. Shanghai, no. 1, p. 93, Jan.
1931 (reference). — Chevey, Inst. Océan.
Indo Chine, 19^e note, p. 28, Aug. 25, 1932
(Annam).

Euryglossa orientalis Kaup, Archiv
Naturges., vol. 24, pt. 1, p. 99, 1858
(Paris Museum).

Synaptura orientalis Günther, Cat.
Fishes Brit. Mus., vol. 4, p. 484, 1862
(compiled). — Day, Fishes of India, pt.
3, p. 429, pl. 94, fig. 2, 1877 (Canara,
Singapore); Fauna British India,
Fishes, vol. 2, p. 449, 1889. — Jordan
and Evermann, Proc. U. S. Nat. Mus.,
vol. 25, p. 366, 1902 (Formosa). ✓ Seale,
— Jenkins, Mem. Indian Mus., vol.
3, p. 29, 1910 ().

Mem. Asiatic Soc. Bengal, vol. 6, pt. 9,
p. 476, 1924 (Tale Sap, Peninsular
Siam). — McCulloch, Mem. Austral.
Mus., no. 5, pt. 2, p. 285, Sep. 10, 1929
(compiled). — Weber and Beaufort,
Fishes Indo Austral. Archip., vol. 5,
p. 175, 1929 (Riouw). — Tirant, Serv.
Océan. Pêch. Indo Chine, 6^e note,
p. 172, 1929 (Hué).

Synaptura orientalis Günther, Cat.
 Fishes Brit. Mus., vol. 4, p. 484, 1862
 (compiled). — Day, Fishes of India, pt.
 3, p. 429, pl. 94, fig. 2, 1877 (Canara,
 Singapore); Fauna British India,
 Fishes, vol. 2, p. 449, 1889. — Jordan
 and Evermann, Proc. U. S. Nat. Mus.,
 vol. 25, p. 366, 1902 (Formosa). — Seale,
 Philippine Journ. Sci., vol. 9, p. 78, 1914
 (Hong Kong). — Hora, Mem. Indian
 Mus., vol. 5, p. 759, 1923 (Chilka Lake);
 Mem. Asiatic Soc. Bengal, vol. 6, pt. 9,
 p. 476, 1924 (Tale Sap, Peninsular
 Siam). — McCulloch, Mem. Austral.
 Mus., no. 5, pt. 2, p. 285, Sep. 10, 1929
 (compiled). — Weber and Beaufort,
 Fishes Indo Austral. Archip., vol. 5,
 p. 175, 1929 (Riouw). — Tirant, Serv.
 Océan. Pêch. Indo Chine, 6^e note,
 p. 172, 1929 (Hué).

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Solea foliacea Richardson, Ichth.
China Japan, p. 279, 1846 (type
locality: coasts of China; Canton).

Synaptura foliacea Günther, Cat.
Fishes Brit. Mus., vol. 4, p. 481, 1862
(China). — Day, Fishes of Malabar, p.
173, 1865. — Reeves, Journ. Pan Pac.
Res. Inst., vol. 2, no. 3, p. 14, July-Sep.
1927 (name).

Brachirus foliaceus Bleeker, Nederl.
Tijds. Dierk., vol. 4, p. 130, 1873
(1874) (reference).

Solea pan (not Buchanan-Hamilton)
Bleeker, Natuurk. Tijds. Nederl. Indië,
vol. 1, p. 410, 1850 (1851).

Synaptura pan Bleeker, Verh.
Batavia. Genoot., no. 9, vol. 24, p. 30,
1852 (Biliton). — Reeves, Journ. Pan
Pac. Res. Inst., vol. 2, no. 3, p. 14,
July-Sep. 1927 (Swatow).

? Solea trichodactylus ^(not Cuvier) Kaup, Archiv
Naturges., vol. 24, pt. 1, p. 95, 1858
(type locality: Amboina [Paris Collection]).

2398

Synaptura cinerascens Günther, Cat.
Fishes Brit. Mus., vol. 4, p. 482,
1862 (type locality: Ceylon). — Day,
Fishes of India, pt. 3, pl. 93, fig. 4,
1877.

Brachius sundaicus Bleeker, Atlas
Ichth. Ind. Néerl., vol. 6, p. 20, pl. (5)
236, fig. 4, pl. (8) 239, fig. 2, 1866-72
(type locality: Rio, Bintang; Singapore;
Biliton).

Synaptura nigra Macleay, Proc. Linn.
Soc. New South Wales, vol. 5, pt. 1, p. 49,
Aug. 1880 (type locality: Cook's River,
Botany Bay); vol. 6, 1882, p. 137.

— Woods, Fish. Fisher. New South Wales,
p. 77, 1882. — Ogilby, Cat. Fish. New
South Wales, p. 33, 1887. — Saville Kent,
Proc. Roy. Soc. Queensland, vol. 6, 1889,
p. 240. — Ogilby, Edible Fish. New South
Wales, p. 160, pl. 39, 1893. — Waite, Mem.
Austral. Mus., vol. 6, p. 125, pl. 30, 1899.

— Stead, Fishes of Australia, p. 181, pl.

6, 1906; Edible Fish. New South
Wales, p. 106, pl. 73, 1908. — Ogilby,
Proc. Roy. Soc. Queensland, vol.
21, p. 25, 1908. — Roughley, Fishes
of Australia, p. 172, pl. 59, 1916.
— McCulloch, Austral. Zoologist,
vol. 2, p. 46, 1921.

Synaptura cinerea de Vis, Proc. Linn.
Soc. New South Wales, vol. 8, pt. 2, p.
288, July 17, 1883 (type locality:
Morton Bay, Queensland).

725

Depth $1\frac{2}{3}$ to $2\frac{1}{8}$; head 3 to $3\frac{4}{5}$, ~~snout~~
width $1\frac{3}{5}$ to $1\frac{2}{3}$; snout $2\frac{3}{5}$ to 3; eye
3 to $4\frac{1}{2}$, 1 to $1\frac{1}{8}$ in snout, 1 to $1\frac{1}{3}$ in
interorbital; maxillary half way to $\frac{4}{5}$ in
snout; 3 to ~~3~~ $3\frac{3}{5}$ in head; interorbital $3\frac{1}{4}$
to $3\frac{7}{8}$, broadly convex; upper edge of
preopercle spine $2\frac{1}{2}$ to $5\frac{1}{4}$. Gill rakers
5 + 13, short strong points, 4 of gill
filaments which about equal eye.

Scales 50 to 57 in lateral line, tubes
large but not well marked; 7 scales
above lateral line, 22 below. Scales
with 6 or 7 basal striae, mostly marginal,
apical denticles 83 to 88, each with long
blender rootlet, variably 2 denticles
fusing to single rootlet; circuli fine.

D. XIII or XIV, 18, I to 20, I, last
spine $1\frac{1}{4}$ to $1\frac{3}{4}$ in head, eleventh
ray $3\frac{2}{3}$ to 4; A. III, 18, I or 19, I, last
spine in combined head and body
 $1\frac{1}{3}$ to $2\frac{1}{5}$ in head, tenth ray $3\frac{3}{4}$ to 4.
least depth of caudal peduncle 2 to $2\frac{1}{8}$
in combined head and body; in head; caudal
1 to $1\frac{1}{6}$, convex behind; pectoral 1 to $1\frac{1}{5}$;
ventral $3\frac{1}{4}$ to $3\frac{2}{3}$ in combined head
and body.

General color pale brown, with yellowish
shade. Nine transverse blue-gray bands,
that usually fading out to general pale
body color, also each inclined little
posteriorly and broadly bordered with
deep or dusky-brown; extend on spinous
dorsal and over most of both anals as

2400

Brachirus pan (Buchanan-Hamilton)

Pleuronectes pan Buchanan-Hamilton,
Fishes of Ganges, pp. 130, 373, pl. 24,
fig. 42, 1822 (type locality: eastern
Gangetic estuaries from Dhaka downwards).

Brachirus pan Swainson, Nat. Hist.
Animals, vol. 2, p. 303, 1839 (reference).
— Bleeker, Atlas Ichth. Ind. Néerl.,
vol. 6, p. 21, pl. (9) 240, fig. 1; 1866-72
(Bintang, Singapore, Biliton); Nederl.
Tijds. Dierk., vol. 4, p. 130, 1873 (1874)
(name). — Chu, Biol. Bull. St. John's
Univ., Shanghai, no. 1, p. 94, Jan. 1931
(reference). — Horman, Mem. Indian
Mus., vol. 30, pt. 2, p. 181, July, 1928
(Calcutta, River Hughli, Santipur
marshes, Sunderbans, Vittang River).

Synaptura pan Bleeker, Verh. Batavia.
Genoot., no. 9, vol. 24, p. 30, 1852 (Biliton).
— Günther, Cat. Fishes Brit. Mus.,
vol. 4, p. 481, 1862 (India). — Day,
Fishes of India, pt. 3, p. 429, pl. 93, fig.

2401
3, 1877 (Calcutta); Fauna British India,
Fishes, vol. 2, p. 449, 1889. — Weber
and Beaufort, Fishes Indo Austral.
Archip., vol. 5, p. 171, 1929 (Bleeker's
specimen).

— Sauvage, Bull. Soc. Philomath. Paris,
ser. 7, vol. 5, p. 104⁷, 1881 (Swatow).

Pleuronectes canus Gray, Cat. Fish Gronow,
p. 91, 1854 (type locality: Mari Indico).

2402

Brachirus panoides (Bleeker)

Synaptura panoides Bleeker, Natuurk.
Nijds. Nederl. Indië, vol. 2, 1851, p.
440 (type locality: Bandjermassing,
Borneo); Verh. Batavia. Genoot.,
no. 9, vol. 24, p. 30, 1852 (Bandjermassing).
— Kaup, Archiv naturges., vol. 24,
pt. 1, p. 97, 1858 (reference). —
Günther, Cat. Fishes Brit. Mus., vol.
4, p. 486, 1862 (Singapore?). — Weber
and Beaufort, Fishes Indo Austral.
Archip., vol. 5, p. 174, 1929 (Sumatra).

Brachirus panoides Bleeker, Atlas
Ichth. Ind. Néerl., vol. 6, p. 21, pl. (8)
239, fig. 3, 1866-72 (Singapore,
Sumatra, Borneo).

Brachirus pectoralis (Kaup)²⁴⁰³

Synaptura pectoralis Kaup, Archiv
Naturges., vol. 24, pt. 1, p. 96, 1858 (type
locality: Cape of Good Hope). —
Günther, Cat. Fishes Brit. Mus.,
vol. 4, p. 483, 1862 (compiled).

2404

Brachirus salinarum Ogilby

Brachirus salinarum Ogilby, Proc.
Roy. Soc. Queensland, vol. 23, p. 35,
1910 (type locality: Salt pans at
Kimberly, North Queensland). — Horman,
Biol. Res. Endeavour, vol. 5, pt. 5, p. 294, June 15, 1926 (compiled).
Synaptura salinarum McCulloch,
Austral. Mus. Mem., no. 5, pt. 2, p.
285, Sep. 10, 1929 (reference).

(Mem. Queensland Mus., vol. 5, p. 64,
figs. 2-3, 1916 (types).

Brachius selheimi (Macleay)²⁴⁰⁵

Synaptura selheimi Macleay, Proc.
Linn. Soc. New South Wales, Vol. 7, pt.
1, p. 71, May 23, 1882 (type locality:
Palmer River, Queensland). —

McCulloch, Austral. Mus. Mem., no. 5,
pt. 2, p. 286, Sep. 10, 1929 (reference).

Brachius selheimi Norman, Biol. Res.
Endeavour, vol. 5, pt. 5, p. 294, June 15,
1926 (reference).

Brachirus setifer (Paradise) 2406

Synaptura setifer Paradise, Mem.
Queensland Mus., vol. 11, pt. 1, p. 101,
fig. 3, April 28, 1927 (type locality:
Port Darwin, Northern Territory). —
McCulloch, Austral. Mus. Mem.,
No. 5, pt. 2, p. 286, Sep. 10, 1929 (reference).

Brachius villosus (Weber)²⁴⁰⁷

Synaptura villosa Weber, Nova
Guinea, vol. 5, pt. 2, p. 251, pl. 13,
fig. 3, 1908 (type locality: Woyani
River in Irama basin, south New
Guinea); vol. 9, pt. 4, p. 590 (Verlaten
Bocht, Alkmaar, Merauke, Sabang,
Lorentz River, Regen Island). —
Regan, Trans. Zool. Soc. London,
vol. 20, pt. 6, p. 276, 1914 (Mimika
River, New Guinea). — Weber and
Beaufort, Fishes Indo Austral.
Archip., vol. 5, p. 176, fig. 47, 1929
(Woyani, Lorentz River, Merauke).

Brachius villosus Fowler, Mem.
Bishop Mus., vol. 28, p. 95, 1928 (reference).

2408

Genus Soleichthys Bleeker

Soleichthys Bleeker, Act. Soc. Sci.
Ind. Néerl., vol. 6, p. 183, 1859.
(Type Solea heterorhina Bleeker,
monotypic.)

Front nasal tube of ocular side
elongate. Gill opening of ocular
side ends opposite upper part of
pectoral base. Opercular membrane
joined to upper part of pectoral
fin. Only posterior parts of dorsal
and anal fins scaly on blind side.
Hind dorsal and anal rays
connected only with base of caudal
fin, rather long. Pectoral
fins small.

733

Holacanthus monophthalmus Kner,
Sitzb. Akad. Wiss. Wien, band 56, 1867,
p. 714. Islands of South Sea or west coast
of South America. [Raiatea, Society Islands.]

Holacanthus ocularis Peters, Monatsb.
Akad. Wiss. Berlin, 1868, p. 147. South Seas.

Holacanthus sphyra de Vis, Proc. Linn.
Soc. New South Wales, vol. 9, 1884 (1885), p.
45-7. Queensland coast.

Yellow in life with narrow dusky
border around eye. Blue bar along
opercle edge. Pale brown bar across
chin. Soft vertical fins with white
edges and dusky submarginal line.

Melanesia, Micronesia, Polynesia,
Hawaii.

52472 U.S.N.M. Samoa. Bureau of
Fisheries. 5 examples.

2409

Soleichthys heterorhinos (Bleeker)

Solea heterorhinos Bleeker, Act.
Soc. Sci. Ind. Néerl. (Amboin.),
vol. 1, p. 64, 1856 (type locality:
Amboina).

Solea heterorhina Günther, Cat.
Fishes Brit. Mus., vol. 4, p. 466, 1862
(no locality). — Kner, Denks. Akad.
Wiss. Wien, math.-nat. Kl., vol. 24,
p. 8, pl. 3, fig. 2, 1865 (

— Bleeker, Atlas Ichth. Ind. Néerl.,
vol. 6, pl. (9) 240, fig. 2, 1866-72.

— Day, Fishes of India, pt. 3,
p. 426, pl. 92, fig. 5, 1877 (Port
Blair). — Günther, Rep. Voy.

Challenger, vol. 1, pt. 6, p. 36, 1880
(Ovalau, Fiji). — Day, Fauna

British India, Fishes, vol. 2, p.
444, fig. 159, 1889. — Günther,

Journ. Mus. Godeffroy, vol. 8, pt.
16, p. 345, 1909 (Ponape, New Britain,

Saville-Kent, Great Barrier Reef, p. 297, pl. 16, fig. 5,
1893 (Thursday Island).

Samoa, Tonga, Fiji). — Weber,
Siboga Exped., vol. 57, p. 435, 1913
(Elat and Feer, High Kei). —
Weber and Beaufort, Fishes
Indo Austral. Archip., vol. 5, p.
148, fig. 38, 1929 (Weber's material).
Solea heterorhinus Bleeker, Atlas
Ichth. Ind. Néerl., vol. 6, p. 17, 1866-
72 (Celebes, Ambona, Timor).
Soleichthys heterorhinus Bleeker,
Act. Soc. Sci. Ind. Néerl. (Amboina),
vol. 8, p. 14, 1860 (Amboina).
— Evermann and Seale, Bull.
Bur. Fisher., vol. 26, p. 107, 1906
(1907) (Bacon). — McCulloch,
Mem. Queensland Mus., vol. 5,
p. 60, 1916 (type of Solea lineata, India).
— Norman, Biol. Res. Endeavour,
vol. 5, ^{pt. 5,} p. 286, ^{June 15} 1926 (compiled).

— Fowler, Mem. Bishop Mus., vol. ²⁴¹¹
10, p. 94 (compiled). — McCulloch,
~~Proc. Linn. Soc. New South Wales~~
Mem. Austral. Mus., no. 5, pt. 2,
p. 283, Sep. 10, 1929 (reference).

? Aesopia multifasciata Kaup,
Archiv Naturg., vol. 24, pt. 1, p.
97, 1858 (type locality: India;
through Le Sneur).

Synaptura multifasciata Günther,
Cat. Fishes Brit. Mus., vol. 4, p.
485, 1862 (compiled; said to be from East Indies).

— Day, Fishes of India, pt. 3, p.
430, 1877; Fauna British India,
~~Vol. 4~~ Fishes, vol. 2, p. 450, 1889. and Kner
Solea nigrostruolata Steindachner,

Sitzs. Ber. Akad. Wiss. Wien, math.-
nat. Kl., vol. 61, p. 427, pl. 1, fig. 2,
1870 (type locality: Viti Levu).

Solea lineata Ramsay, Proc. Linn.
Soc. New South Wales, vol. 7, pt. 4,
p. 406, April 1883 (type locality:
Port Stephens, New South Wales).

²⁴¹²
Soleichthys lineatus McCulloch,
Austral. Mus. Mem., No. 5, pt. 2,
p. 283, Sep. 10, 1929 (reference).

Depth $2\frac{4}{5}$ to $2\frac{7}{8}$; head $5\frac{1}{2}$ to $5\frac{2}{3}$, width $2\frac{1}{4}$ to 3. Snout end to lower orbit $3\frac{4}{5}$ to 4 in head; lower orbit $4\frac{4}{5}$ to $5\frac{1}{4}$, $1\frac{1}{8}$ to $1\frac{1}{4}$ in snout, opposite to $\frac{1}{5}$ in advance of upper orbit; mouth cleft reaches $\frac{1}{4}$ to $\frac{1}{3}$ in lower orbit, ^{nasal tentacles $1\frac{1}{4}$ times lower orbit;} length 3 to $3\frac{1}{5}$ in head; ^{scaly} interorbital $2\frac{1}{2}$ to 3 in lower orbit. Gill rakers as few very minute rudimentary papillae; gill filaments long as lower orbit.

Scales 88 to 90 in lateral line from above gill opening to caudal base and 7 or 8 more on latter (7 more forward on head to dorsal intersection); 22 or 23 above, 35 to 37 below. Scales all cycloctenoid. Scales with 5 basal

(602)

A 545. Salade Island. September 17,
1909. Length 377 mm.

5724, 5725. Suragao, Mindanao.
May 8, 1908. Length 297 to 340 mm.

7843. Taganak Island, Jolo Sea.
January 7, 1909. Length 273 mm.

7356, 9518. Tara Island. December 15,
1908. Length 133 to 275 mm.

4910. Tataan, Samaluc Island.
February 19, 1908. Length 280 mm.

4920. Tataan. February 20, 1908.
Length 254 mm.

5820. Tataidaga Point. May 15, 1908.
Length 244 mm.

6427, 6467. Tilig, Lubang. July 14, 1908.
Length 300 to 310 mm.

7654. Ulugan Bay, Oyster Inlet.
December 28, 1908. Length 276 mm.

6667, 20829. Varadero Bay, Mindoro.
July 23, 1908. Length 164 to 220 mm.

2414

radiating striae; 11 or 12 rather long slender pointed apical denticles; cirruli fine continuous.

D. 88 to 90, fin height $1\frac{2}{3}$ to 2 in head; A. 75 or 76, fin height $1\frac{3}{5}$ to $1\frac{2}{3}$; caudal $1\frac{1}{4}$, rounded behind; ventral $2\frac{1}{4}$ to $2\frac{4}{5}$. (pectoral $2\frac{1}{8}$ to $2\frac{1}{6}$;

or right side

Even drab generally, with many variable transverse close set darker to drab bands, often as pairs, and all with ^{still} darker narrow ~~bordering~~ ~~bordering~~ bordering lines. Often transverse dark bands more widened and broken or irregular towards caudal and all extending on vertical fins. Vertical fins all darker subterminally, with narrow whitish edge. Orbits grays. Left side whitish, vertical

55
8139. Alibijaban Island, Ragay Gulf,
Luzon. March 6, 1909. Length 290 mm.

13505, 16007, 16011, 17702 to 17704, 19270.

Alimango Bay, Burias Island. March
5, 1909. Length 123 to 210 mm.

6501. Balikias Bay, Luzon. July 17,
1908. Length 262 mm.

A504. Balukbaluk Island, south of
Zamboanga. September 12, 1909. Length 305 mm.

18921. Batane Island. June 5, 1909.
Length 132 mm.

8668. Biri Channel, June 22, 1909.
Length 313 mm.

7445, 7446, 10587 to 10589, 19774. Bolalo
Bay, Malampaya Sound, Palawan Island.
December 21, 1908. Length 47 to 289 mm.

12216. Bugsuk Island, Bilabuc.
January 5, 1909. Length 154 mm.

5599, 5600, 5631, 5676, 15984. Busin Harbor,
Burias Island. April 22, 1908. Length 154 to 508 mm.

fins pale basally, subterminally
blackish brown, edges whitish.

Andamans, East Indies,
Philippines, Queensland, New South
Wales, Melanesia, Micronesia,

11567. Cebu market, Cebu
August 26, 1909. Length 82 mm.

15510. Dumaca River, Luzon.
February 25, 1909. Length 105 mm.

first anal ray is longer than the soft anal base.

A few of my specimens differ in their dark coloration, nearly or largely uniform chocolate brown, except some pale spots on each side of the abdomen posteriorly. The coloration is quite variable in alcoholic specimens. Usually there is a mark to blackish blotch, sometimes a little smaller than the eye or again even larger than the eye. Its position is variable, for it may be rather close behind the gill opening or about first third of pectoral, over middle of pectoral or over hind part of pectoral. One, 2 or even 3 dark blotches may occur. Some specimens show vertical transverse dark bars and these 5 to 10.

2416

Soleichthys microcephalus (Günther)

Solea microcephala Günther, Cat.

Fishes Brit. Mus., vol. 4, p. 466,
1862 (type locality: Australia,
New South Wales). — Kner, Reise

~~Soleichthys microcephalus Mac-
Gill, Austral. Mus. Mem., no.
5, pt. 2, p. 205, pl. 10, 1865 (reference).~~

Novara, Fische, p. 288, 1865).

— Macleay, Proc. Linn. Soc. New
South Wales, vol. 6, 1882, p. 135

— Ogilby, Cat. Fishes New South
Wales, p. 32, 1887. — Waite, Mem.
New South Wales Nat. Club, no. 2,
p. 44, 1904. — Stead, Edible Fishes
of New South Wales, p. 105, pl. 71, 1908.

— Roughley, Fishes of Australia,
p. 176, pl. 61, 1916. ~~not new~~

2417

Solichthys microcephalus
McCulloch, Austral. Zool., vol.
2, p. 47, pl. 13, 1921 (New South
Wales). — Norman, Biol. Res.
Endeavour, vol. 5, pt. 5, p. 287,
June 15, 1926 (compiled). — McC
Culloch, Austral. Mus. Mem., No. 5,
pt. 2, p. 283, Sep. 10, 1929 (reference).

longitudinal bluish lines, ^{also} becoming broader and vertical posteriorly on snout. Iris brown. Hind border of preopercle and opercle, gill openings, also most of preopercular spine bluish. Two parallel bluish lines, variously complete, down from occiput, front one to front border of eye and hind one to hind border of eye; narrow blue line from front of inter-orbital medially forward toward front of snout; all frontal lines bordered narrowly with dusky. Paired fins and caudal all pale or yellowish-brown, outer terminal portion of ventral with blue margin line and dusky submarginal line.

Red Sea, Zanzibar, Mauritius, East Indies, ^{Melanesia, Micronesia,} Polynesia. The color-pattern variable with age. Small examples show but 8 transverse bluish bands, with seventh forming blackish ocellus on soft dorsal, blue borders curving and breaking for its inception. If the very young I think and tail with but 4 transverse pale bands, intervening areas with only faint indication of dark band; head with 3 narrow transverse pale bands; large black ocellus on soft dorsal larger than eye.

Genus Zebrias Jordan and Snyder

Zebrias Jordan and Snyder, Proc. U. S. Nat. Mus., vol. 23, p. 380, 1900.

(Type Solea zebrina Schlegel, monotypic.)

Opercular membrane joined to upper portion of pectoral. Gill opening on ocular side ending opposite upper part of pectoral base. Front nasal tube of ocular side short or moderate. ^{Scales ctenoid.} Dorsal and anal entirely scaly on blind side. Hind rays of dorsal and anal connected with at least basal third of caudal. First dorsal ray not enlarged.

Zebrias altipinnis (Alcock)

2419

Synaptura altipinnis Alcock, Ann.
Mag. Nat. Hist., ser. 6, vol. 6, p. 441, 1890
(type locality: off Vizagapatam coast,
in 25 fathoms), Journ. Asiatic Soc.
Bengal, vol. 65, p. 329, 1896 ();
Illustrat. Zool. Investigator, pt. 5, pl. 24,
fig. 1, 1898. — Jenkins, Mem. Indian
Mus., vol. 3, No. 1, p. 29, 1910. — Weber
and Beaufort, Fishes Indo Austral.
Archip., vol. 5, p. 178, 1929 (Java Sea;
Madura), p. 430 (reference).
Zebrias altipinnis Norman, Rec. Indian
Mus., vol. 30, pt. 2, p. 184, pl. 7, July 1928
(Orissa, Ganjam, Hugli River mouth,
Bengal Bay, Tenasserim, Arabian coast).

Zebrias dicholepis (Peters) 2420

Synaptura dicholepis Peters, Monatsb.
Akad. Wiss. Berlin, p. 844, 1876 (1877)
(type locality: New Hanover, Bismarck
Archipelago).

Zebrias dicholepis Jordan and Seale,
Bull. Bur. Fisher., vol. 25, p. 413,
1905 (1906) (name).

Brachius dicholepis Fowler, Mem.
Bishop Mus., vol. 10, p. 95, 1928 (compiled).

Zebrias jereus (Cuvier)

2421

Pleuronectes jereus Cuvier, Règne Animal, vol. 2, p. 343, 1829 (on Jeree potoo B. Russell, Fishes of Coromandel, vol. 1, p. 56, pl. 71, 1803; type locality: Vizagapatam).

Brachius jereus Swainson, Nat. Hist. Animals, vol. 2, p. 303, 1839 (reference).

Synaptura jereus Bleeker, Verh. Batavia. Genoot. (Bengal. Hind.), vol. 25, p. 76, 1853 (reference). — Jerdon, Madras Journ. Liter. Sci., vol. , p. 148, 1851.

Synaptura quagga (not Kaup) Günther, Cat. Fishes Brit. Mus., vol. 4, p. 485, 1862 (part).

Synaptura synapturoides Jenkins, Mem. Indian Mus., vol. 3, p. 28, pl. 3, fig. 4, 1910.

2422

Zebrias synapturoides Horman, Rec.
Indian Mus., vol. 30, pt. 2, p. 83, pl.
5, July 1928 (Ganjam, Malabar, 24 to
68 fathoms).

2423

Zebrias quagga (Kaup)

Aesopia quagga Kaup, Archiv Naturg.,
vol. 24, pt. 1, p. 98, 1858 (type locality:
Bombay). — McCulloch, Austral. Mus.
Mem., No. 5, pt. 2, p. 287, Sep. 10, 1929
(reference).

Synaptura quagga Günther, Cat. Fishes
Brit. Mus., vol. 4, p. 485, 1862 (China);
Ann. Mag. Nat. Hist., vol. 13, ser. 4,
p. , 1874 (Chefoo). — Macleay, Proc.
Linn. Soc. New South Wales, vol. 6, pt.
1, p. 136, 1881 (Sydney, Brisbane, Swan
River). — ? Nyström, Bih. Svensk. Vet.
Akad. Handl. Stockholm, vol. 13, aft.
4, no. 4, p. 41, 1887 (Nagasaki, Japan).
— Alcock, Ann. Mag. Nat. Hist., ser.
6, vol. 6, p. 440, 1890 ();
Journ. Asiatic Soc. Bengal, vol. 58, pt.
1, no. 3, p. 286, 1889 (Bengal Bay);
vol. 65, pt. 2, 329, 1896 ().
— Weber and Beaufort, Fishes Indo
Austral Archip., vol. 5, p. 173, 1929
(Java Sea; Madura).

Brachirus quagga Bleeker, Nederl.
Tijds. Dierk., vol. 4, p. 130, 1873
(1874) (reference).

Gebrias quagga Jordan and Snyder,
Annot. Zool. Japon., vol. 3, p. 123,
1901 (reference). — Hubbs, Proc. U.
S. Nat. Mus., vol. 48, p. 493, 1915
(Hong Kong specimen). — Reeves, Journ.
Pan Pac. Res. Inst., vol. 2, no. 3, p.
14, July-Sep. 1927 (Hingpo; Hong
Kong). — Norman, Records Indian
Mus., vol. 30, pt. 2, p. 184, pl. 6, July
1928 (Madras, Orissa, Persian
Gulf, Bombay, 7 to 10 fathoms). —
Chu, Biol. Bull. St. John's Univ.
Shanghai, no. 1, p. 93, Jan. 1931
(Chingwangtao).

Synaptura zebra (not Bloch) Day,
Fishes of India, pt. 3, p. 430, pl. 94, fig.
3, 1877 (part). — Regan, Journ.
Bombay Nat. Hist. Soc., vol. 16, p. 330, 1905
(Persian Gulf). — Jordan and Seale,
Proc. Davenport Acad. Sci., vol. 10, p. 17, pl. 12,
1905 (1907) (Hong Kong).

Zebrias zebra (Bloch)

Pleuronectes zebra Bloch, Naturges.
Austral. Fische, vol. 3, p. 27, pl. 187,
 1787 (type locality: East Indies). —
Bonnaterre, Tabl. Ichth., p. 76, pl.
 90, fig. 375, 1788 (East Indies). —
Gmelin, Syst. Nat. Linn., pt. 1, p.
 1226, 1789 (India). — Walbaum, Arted.
Pisc., vol. 3, p. 114, 1792 (on Bloch). —
Forster, Fauna Indica, p. 14, 1795. —
Schneider, Syst. Ichth. Bloch, 1801, p.
 151 (Tranquebar). — Lacépède, Hist.
Nat. Poiss., vol. 4, p. 597, 642, 1802
 (East Indies). — Shaw, General Zool.,
 vol. 4, p. 305, pl. 44, 18 ().
 — Shaw and Hodder, Naturalist's
Miscell., vol. 21, p. 890, 1809 (Indian
 Seas). — Bennett, Life of Raffles, p.
 692, 1830 (Sumatra).

Solea zebra Cuvier, Règne Animal,
 vol. 2, p. 223, 1817 ().

— Bleeker, Verh. Batavia. Genoot.,
 no. 9, vol. 24, p. 16, 1852 (Batavia). —

Rutter, Proc. Acad. Nat. Sci. Philadelphia,

1897, p. (Swatow). — Rendahl,²⁴²⁶
Archiv Zool. vol. 16, no. 2, p.
, 1924 (Swatow).

Brachius zebra Swainson, Nat. Hist.
Animals, vol. 2, p. 303, 1839 (on Bloch).
— Bleeker, Atlas Ichth. Ind. Néerl.,
vol. 6, p. 22, pl. (9) 240, fig. 3, 1866-
72 (Java, Singapore, Pinang, Sumatra,
Borneo); Néderl. Tijds. Dierk., vol. 4,
p. 130, 1873 (1874) (Canton; Amoy);
Verh. Lebad. Wet. Amsterdam
(Pois. Jap.), vol. 18, p. 22, 1879
(Nagasaki, Shimoda). — Fowler,
Mem. Bishop Mus., vol. 10, p. 94, 1928 (compiled).
Synaptura zebra Cantor, Journ.
Asiatic Soc. Bengal, vol. 18, pt. 1,
p. 1206, 1849 (1850) (Sea of Malay
Peninsula and islands). — Günther,
Cat. Fishes Brit. Mus., vol. 4, p. 484,
1862 (Amoy, China, East Indies, Pinang).
— Kner, Reise Novara, Fische, p. 292,
1865 (Java + —). — Day, Fishes
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1877 (type). — Günther, Rep. Voy.

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 (Arafura Sea, 35 to 49 fathoms).
 — Namiye, Class. Cat., p. 111, 1881
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 Journ. Fisher. Bur. Tokyo, p. 8,
 pl. 8, fig. 11, 1897. — Ishikawa and
Matsuura, Prelim. Cat. Mus. (Fishes)
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 (). — Weber and Beaufort,
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Aesopia zebra Kaup, Archiv Naturges.,
 vol. 24, pt. 1, p. 98, 1858 (reference). —
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 vol. 3, p. 611, 1912 (Batavia).

Zebrias zebra Jordan and Snyder,
 Annot. Zool. Japon., vol. 3, p. 769, 1901
 (reference). — Jordan and Evermann,
 Proc. U. S. Nat. Mus., vol. 25, p. 367,
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 Mus., vol. 48, p. 493, 1915 (Swatow, China).

— Reeves, Journ. Pan Pac. Res. Inst.,
vol. 2, no. 3, p. 14, July-Sep. 1927
(Chefoo, Chinwangtao, Swatow). —
Chu, Biol. Bull. St. John's Univ.
Shanghai, no. 1, p. 93, Jan. 1931
(reference).

Nolea zebrina Schlegel, Fauna Japonica,
Pois., pts. 10-14, p. 185, pl. 95, fig. 1,
1846 (type locality: Japan).

Zebrias zebrinus Jordan and Snyder,
Annot. Zool. Jap., vol. 3, p. 123, 1901.
(reference); Proc. U. S. Nat. Mus., vol. 23,
p. 900, 1901 (Nagasaki). — Jordan and
Starks, Proc. U. S. Nat. Mus., vol. 31,
p. 232, fig. 26, 1906 (Nagasaki, Tokyo, Kobe,
Hakata). — Jordan, Nanaka, Snyder,
Journ. College Sci., vol. 33, p. 334, fig.
284, 1913 (reference). — Snyder, Proc.
U. S. Nat. Mus., vol. 42, p. 440, 1912 (Tokyo,
Misaki, Kagoshima). — Hubbs, Proc.
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Matsuura, Cat. Zool. Spect. Mus. Tokyo,

Vert., p. 115, 1920 (Kochi, Yosa). —
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Sci., vol. 16, No. 4, p. 112, Jan. ^{31,} 1927
(Chefoo). — Reeves, Journ. Pan Pac.
Res. Inst., vol. 2, No. 3, p. 14, July-Sep.
1927 (Shantung, Canton). — McCulloch,
Austral Mus. Mem., No. 5, pt. 2, p.
287, Sep. 10, 1929 (compiled). — Fowler,
Proc. Acad. Nat. Sci. Philadelphia,
vol. 81, p. 615, 1929 (Hong Kong). — Wu,
Contrib. Biol. Lab. Sci. Soc. China,
vol. 5, ^{no.} pt. 4, p. 69, fig. 56, 1929 (Amoy). —
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Sci. U. R. S. S., 1930, p. 1149 (Tsungu).
— Chu, Biol. Bull. St. John's Univ.,
No. 1, p. 93, Jan. 1931 (reference). —
Schmidt, Trans. Pac. Comm. Acad.
Sci. U. S. S. R., vol. 2, p. 128, 1931 (Nagasaki);
Compt. Rend. Sci. U. R. S. S., 1931, p. 318
(Fusan, Korea).

Solea ornatus Richardson, Fishes
China Japan, p. 279, 1846 (type locality:
coasts of China; Canton; Borneo).

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Aesopia ommatura Kaup, Archiv
Naturges., vol. 24, pt. 1, p. 98, 1858
(reference).

Synaptura ommatura Regan, Ann. Mag.
Nat. Hist., ser. 7, vol. 11, p. 56, 1903.

Pleuronectes fasciatus Gray, Cat. Fish
Gronow, p. 91, 1854 (type locality:
India Orientali).

Solea fasciata Basilewsky, nouv. mem.
Soc. Nat. Moscou, vol. 10, p. 261, 1855
(Shantung).

Zebrias fasciatus Jordan and Metz,
Mem. Carnegie Mus., vol. 6, no. 1, pl. 9, fig.
2, 1913 (Fusan, Corea). — Sowerby,
Natural. Manchuria, vol. 4, p. 183, 1930
(Pei Hai Ho).

Aesopia helotes Kaup, Archiv Naturges.,
vol. 24, pt. 1, p. 99, 1858 (on Jerree photo
B. Russell, Fishes of Coromandel,

vol. 1, p. 56, pl. 71, 1803; type locality: ²⁴³¹ Vizagapatam).

Aesopia japonica Bleeker, Act. Soc. Sci. Ind. Néerl. (Jap.), vol. 8, p. 71, 1860 (type locality: Nagasaki).

Synaptura japonica Günther, Cat. Fishes Brit. Mus., vol. 4, p. 485, 1862 (compiled).

Zebrias japonicus Jordan and Snyder, Annotat. Zool. Japon., vol. 3, p. 123, 1901 (Nagasaki). — Jordan and Starbuck, Proc. U. S. Nat. Mus., vol. 31, p. 234, 1906 (Tokyo; Wakanoura). — Snyder, Proc. U. S. Nat. Mus., vol. 42, p. 440, 1912 (Hakodate), p. 517 (Okinawa). — Jordan, Tanaka, Snyder, Journ. College Sci. Tokyo, vol. 33, p. 355, 1913 (reference). — Izuka and Matsuura, Cat. Zool. Spec. Mus. Tokyo, Vertebr., p. 115, 1920 (Takamatsu). — Schmidt, Trans. Pac. Comm. Acad. Sci. U. S. S. R., 1931, p. 128 (Nagasaki); Comptes Rend. Acad. Sci. U. R. S. S., 1931, p. 318 (Fusan, Korea).

Synaptura quagga (not Kaup) ²⁴³²Rutter,
Proc. Acad. Nat. Sci. Philadelphia,
1897, p. 90 (Swatow).

Synaptura smithi Regan, Ann. Mag.
Nat. Hist., ser. 7, vol. 11, p. 57, pl. 16,
fig. 1, 1903 (type locality: Inland Sea
of Japan).

Depth $2\frac{7}{8}$ to 3; head $5\frac{3}{5}$ to 6, width $2\frac{4}{5}$ to 3. Snout end to lower orbit 4 to $4\frac{1}{5}$ in head; lower orbit 5 to $5\frac{1}{5}$, $1\frac{1}{5}$ to $1\frac{1}{4}$ in snout; orbits opposite or upper $\frac{1}{5}$ in advance; maxillary reaches $\frac{2}{5}$ to $\frac{1}{2}$ in lower orbit; length to snout tip 3 in head; nasal tube short, less than pupil; scaly interorbital $1\frac{1}{2}$ in lower orbit, concave. Gill rakers 6 or 7 short feeble rudiments; gill filaments equal lower orbit.

Scales 102 to 108 in lateral line from above gill opening to caudal base and 8 to 10 more on latter (10 more forward to dorsal intersection); 26 or 27 above, 41 to 43 below. Scales all

can¹²⁹ Lethrinus amboinensis Bleeker

Lethrinus amboinensis Bleeker, Natuurk.

Tijdschr. Nederl. Indië, vol. 6, 1854, p. 490.

Ambouina. $\frac{1}{m}$ Günther, Cat. Fishes British Mus.,

vol. 1, 1859, p. 455 (Ambouina). $\frac{1}{m}$ Kner,

Reise Novara, Fische, 1865, p. 80 (Niobars).

$\frac{1}{m}$ Günther, Journ. Mus. Godeffroy, vol. 2-3,

pts. 5-6, 1874, p. 63 (Peleu Islands). $\frac{1}{m}$

Martens, Preuss. Exped. Ost Asien, 1876, p.

387 (Ternate). $\frac{1}{m}$ Bleeker, Atlas Ichth.

Ind. Néerland., vol. 7, 1873-76, pl. (33) 311,

fig. 3; vol. 8, 1876-77, p. 116 (Ambouina, Flores,

Ceram). $\frac{1}{m}$ Schmeltz, Cat. Mus. Godeffroy, no. 8, 1881, p. 5 (East Indies).

$\frac{1}{m}$ Jordan and Seale, Bull. Bur.

Fishes, vol. 26, 1906 (1907), p. 24 (Carite).

$\frac{1}{m}$ Jordan and Richardson, Mem. Carnegie

Mus., vol. 4, no. 4, 1909, p. 189 (Takao, Formosa).

$\frac{1}{m}$ Seale, Philippine Journ. Sci., vol. 5, no. 4, Oct. 1910, p. 277 (Mindanao).

$\frac{1}{m}$ Nyder, Proc. U. S. Nat. Mus., vol. 4, 1912,

p. 500 (Okinawa). $\frac{1}{m}$ Wiber, Siboga Exped.,

vol. 57, Fische, p. 288 (Malakia, Nusa

Laut). $\frac{1}{m}$ Oshima, Jap. Journ. Zool. Trans.

ctenoid. Scales with 4 or 5 basal radiating striae; 7 or 8 long slender and somewhat divergent apical denticles; circuli fine, continuous. Lateral line on both sides.

D. 80 to 82, fin height $1\frac{3}{5}$ to $1\frac{2}{3}$ in head; A. 66 or 67, fin height $1\frac{7}{8}$ to 2; caudal 1, rounded behind; pectoral $1\frac{1}{3}$ to $1\frac{2}{5}$; ventral $2\frac{1}{3}$ to $2\frac{2}{5}$.

Right side cream buff to vinaceous buff, with 11 pairs of darker brown transverse bands, pairs variable in width, pale interspaces never quite so wide as dark bands and narrow separating pale line dividing bands of each pair. White ringed blackish brown ocellus on caudal base. All fins bands all bent posteriorly.

4 examples. A. N. S. P. Calapan, Mindoro.
Rev. Joseph Clemens. Length 130 to 147
mm.?

Orbits gray. Left side whitish, vertical fins all dark, especially terminally, cross bands obscurely showing through. Right pectoral blackish, left greatly shorter and whitish.

India, Malaya, East Indies, China, Formosa, Rui Kiu, Korea, Japan.

13738. Kowloon, China, September 24, 1908. Length 105 mm.

22745. (Generale Island,
Cupunuypungan Point, East coast
Mindanao. May 9, 1908. Length 89 mm.

20272. Catinauan Bay, Masbate.
April 18, 1908. Length 72 to 98 mm.
3 examples.

10711 to 10713. Catinauan Bay,
Dumurug Point, Masbate. April 19, 1908.
Length 59 to 107 mm. 12 examples.

22132 [1905] to 22134. Cebu market.
September 4, 1909. Length 93 to 105 mm.
15 examples. Surigao, Mindanao.

May 8, 1908. Length 34 to 88 mm.

59747 U.S.N.M. Yatsaki, Japan.
Dr. H. M. Smith. Length 100 mm. As
Lethrinus richardsonii.

75504 U.S.N.M. Wakanaura.
Jordan and Snyder. Bureau of
Fisheries (200201). Length 190 to 194 mm.
2 examples.

Genus Aesopia Kaup

2436

Aesopia Kaup, Archiv Naturges.,
vol. 24, pt. 1, p. 97, 1858. (Type
Solea cornuta Cuvier, designated by
Jordan, Genera of Fishes, pt. 2, p.
282, 1919.)

Differs from Zebrias in cycloid scales
and first dorsal ray enlarged and
free.

Aesopia cornuta (Cuvier)

2437

Solea cornuta Cuvier, Règne Animal,
ed. , vol. 2, p. , 18 (on Jerree
photoo Russell, Fishes of Coromandel,
vol. 1, p. 56, pl. 72, 1803, type locality:

Aesopia cornuta Kaup, Archiv naturges.,
vol. 24, pt. 1, p. 98, 1858 (British India).
— Günther, Cat. Fishes Brit. Mus.,
vol. 4, p. 487, 1862 (compiled). — Day,
Proc. Zool. Soc. London, 1873, p. 238
(). — Jordan and Starke,
Proc. U. S. Nat. Mus., vol. 31, p. 235, fig.
27, 1906 (Nagasaki). — Snyder, Proc.
U. S. Nat. Mus., vol. 42, p. 441, 1912
(Kagoshima). — Jordan, Tanaka, Snyder,
Journ. College Sci. Tokyo, vol. 33, p.
336, fig. 285, 1913 (reference). —
Hubbs, Proc. U. S. Nat. Mus., vol. 48, p.
493, 1915 (Swatow). — Regan, Ann.
Durban Mus., vol. 2, p. 218, 1920
(Katal). — Barnard, Ann.
South African Mus., vol. 21, pt. 1, p. 409,

June 1925(). —
Norman, Records Indian Mus., vol. 30,
 pt. 2, p. 185^{fig. 5}, July 1928 (Madras, Yanjān,
 Orissa, Martaban, 7 to 68 fathoms).

— Chu, Biol. Bull. St. John's Univ., Shanghai,
 no. 1, p. 93, Jan. 1931 (reference). —

Schmidt, Trans. Pac. Comm. Acad.
 Sci. U. S. S. R., vol. 2, p. 130, 1931
 (Misaki).

Synaptura cornuta Day, Fishes of India,
 pt. 3, p. 430, pl. 94, fig. 4, 1877; Fauna
 British India, Fishes, vol. 2, p. 450,
 1889. — Alcock, Journ. Asiatic Soc.
 Bengal, vol. 58, pt. 1, no. 3, p. 287,
 1889 (Bengal Bay). — Johnstone,
 Ceylon Pearl Oyster Fisher., Supp.
 Rep. 15, p. 206, 1904. — Jenkins, Mem.
 Indian Mus., vol. 3, p. 29, 1910.

Synaptura potoo Bleeker, Verh.
 Batavia. Genoot. (Bengal. Hind.),
 vol. 25, p. 76, 1853 (on Jerree potoo
Russell).

2439
Synaptura quagga (not Kaup)
Rutter, Proc. Acad. Nat. Sci.
Philadelphia, 1897, p. (Swatow).

2440

Genus Aseraggodes Kaup
Aseraggodes Kaup, Archiv
Naturges., vol. 24, pt 1, p. 103, 1858.
(Type Aseraggodes guttulatus
Kaup, designated by Jordan,
Genera of Fishes, pt. 2, p. 282,
1919.)

Liachirus Günther, Cat. Fishes Brit.
Mus., vol. 4, p. 479, 1862. (Type, Liachirus
nitidus Günther, monotypic.)

Coryphillus Chabanand, Bull. Soc.
Zool. France, vol. 56, 1931, p. 302. (Type,
Aseraggodes filiger Weber, monotypic.)

left posterior nostril
behind and above anterior
one. Gill membranes united,
free from isthmus. Scales
ctenoid on both sides of body.

2440

Genus Aseraggodes Kaup

Aseraggodes Kaup, Archiv
Naturges., vol. 24, pt 1, p. 103, 1858.
(Type Aseraggodes guttulatus
Kaup, designated by Jordan,
Genera of Fishes, pt. 2, p. 282,
1919.)

Body oblong. Eyes on right
side. Mouth more or less
restricted. Minute teeth on
left rami of jaws. Front
nostrils on both sides tubular;
posterior right nostril slit
above mouth, looking downward;
left posterior nostril tubular,
behind and above anterior
one. Gill membranes united,
free from isthmus. Scales
ctenoid on both sides of body.

Depth $1\frac{3}{4}$ to $1\frac{4}{5}$; head 3 to $3\frac{1}{8}$, width $1\frac{2}{3}$ to $1\frac{3}{4}$. Snout $2\frac{2}{3}$ to 3; eye 3 to $3\frac{1}{4}$, 1 to $1\frac{1}{4}$ in snout, 1 to $1\frac{1}{5}$ in interorbital; maxillary reaches opposite front eye edge, $4\frac{1}{5}$ to $4\frac{1}{2}$ in head; interorbital $3\frac{1}{2}$ to 4, broadly convex; preopercle spine along upper edge $2\frac{2}{5}$ to $2\frac{3}{5}$. Gill rakers 5 + 13, lanceolate, robust, about $\frac{1}{3}$ of gill filaments, which $1\frac{1}{3}$ in eye.

Scales 38 to 43 between gill opening and caudal base; 7 or 8 scales above lateral line, 22 or 23 below. Scales with 5 or 6 basal radiating striae; apical denticles 17 to 23, each with long slender rootlet; circuli very fine.

D. XIV or XV, 15, I or 16, I, last spine $1\frac{2}{5}$ to $1\frac{3}{5}$ in head, eighth ray $1\frac{1}{4}$ to $1\frac{2}{5}$; A. III, 16, I or 17, I, third spine $1\frac{1}{5}$ to $1\frac{2}{5}$, tenth ray $1\frac{1}{4}$ to $1\frac{2}{5}$; least depth of caudal peduncle 2 to $2\frac{2}{5}$; caudal rounded convexly behind, $1\frac{1}{5}$ to $1\frac{1}{3}$; pectoral $1\frac{1}{5}$ to $1\frac{1}{4}$; ventral 1 to $1\frac{1}{8}$.

Uniform blackish-brown, most examples with very narrow whitish edge to caudal posteriorly.
and Queensland.

East Indian region. Previously only known from the Moluccas we have the following examples from the Philippines, and Celebes, East Indies and China.

One straight axial lateral line on each side. Left side of head more or less covered with papillae or filaments which form fringe along profile of head and opercular border. Dorsal begins on snout. Dorsal and anal rays simple or divided at tips and caudal rays branched. Dorsal and anal free from caudal. No pectorals. Ventrals symmetrical, short based, free from anal. Vent median.

Indian Ocean to Japan and Australia, one species in fresh water.

749

Holacanthus nox Bleeker.

Holacanthus nox Bleeker, Nat. Tijds. Ned.

Indië, deel 5, 1853, p. 338. Ambonia. —

Günther, Cat. Fish. Brit. Mus., vol. 2, 1860, p.

51 (copied). — Bleeker, Atlas Ichth. Ind.

Neerl., vol. 9, 1877, p. 62, plate (6) 368, fig. 3

(Ambonia and Goram). — Ogilby, Mem.

Queensland Mus., vol. 5, 1916, p. 178 (Barrier
Reef).

2442

Aseraggodes abnormis (Weber and Beaufort)

Achirus abnormis Weber and Beaufort,
Fishes Indo Austral. Archip., vol. 5,
p. 163, 1929 (type locality: Macassar,
Celebes). — Chabanaud, Zool. Mededeel.
Leiden, vol. 13, pts. 3-4, 1930, p. 192
(type).

2443

Aseraggodes beauforti Chabanaud

Aseraggodes beauforti Chabanaud,
Zool. Mededeelingen ^{Leiden}, vol. 13, ^{p. 43-4,} 1930, p.
189 (type locality: Sea of Timor; on Weber);
Bull. Soc. Zool. France, vol. 56, p. ~~298~~
1931 (diagnosis in key). ³⁰⁰

Aseraggodes cyaneus (not Alcock) Weber,
Siboga Exped., vol. 57, p. 435, pl. 11, fig. 3,
1913 (Timor Sea material). — Weber
and Beaufort, Fishes Indo Austral.
Archip., vol. 5, p. 154, 1929 (Weber's
material).

2444

Aseraggodes cyaneus (Alcock)

Solea cyanea Alcock, Ann. Mag. Nat. Hist., Ser. 6, vol. 6, p. 439, 1890 (type locality: off Ganjam coast; Vizagapatam; 20 to 33 fathoms).

Solea (Achirus) cyanea Alcock, Journ. Asiatic Soc. Bengal, vol. 65, pt. 2, p. 329, 1896.

Aseraggodes cyaneus Weber, Siboga Exped., vol. 57, p. 435, 1913 (Timor Sea, 216 meters). — Horman, Rec. Indian Mus., vol. 30, pt. 2, p. 188, fig. 7, July 1928 (Persian Gulf; Arabian Sea; Kathiawar; Laccadive Sea; north west of Calicut; Travancore; Ganjam; Vizagapatam; Bengal Bay; Gulf of Oman; Muscat; Maldives?; 20 to 148 fathoms). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 5, p. 154, 1929 (^{part} ~~Timor Sea material~~). — Chabanand, Bull. Soc. Zool. France, vol. 61, 1931, p. 300 (diagnosis in key).
(Zool. Mededeel., vol. 13, pts. 3-4, 1930, p. 188 (compiled);

2445

Solea umbratilis Alcock, Journ.
Asiatic Soc. Bengal, vol. 63, pt. 2, p.
131, pl. 7, fig. 3, 1894 (type locality:
Bengal Bay, 91 to 107 fathoms).

Solea umbratilis Goode and Bean,
Oceanic Ichth., p. 536, 1895 (name).

Solea umbratilis Alcock, Illustrat.
Zool. Investigator, pt. 3, pl. 15, fig.
4, 1895; Cat. Deep Sea Fishes Indian
Mus., p. 129, 1899 (Bengal Bay,
Arabian Sea, Malabar Coast, 68
to 148 fathoms). — Regan, Journ.
Bombay Nat. Hist. Soc., vol. 16, p.
329, 1905 (Sea of Oman, 98 fathoms).

Solea (Achirus) umbratilis Alcock,
Journ. Asiatic Soc. Bengal, vol. 65,
pt. 2, p. 329, 1896.

Depth $2\frac{1}{6}$ to $2\frac{1}{2}$; head $3\frac{1}{2}$ to $3\frac{4}{5}$, width 3 to $3\frac{4}{5}$. Snout end to lower orbit $2\frac{3}{5}$ to 3 in head; lower orbit 7 to $7\frac{3}{4}$, 2 to $2\frac{1}{3}$ in snout; upper $\frac{1}{3}$ advanced from lower; maxillary extends $\frac{1}{3}$ to $\frac{2}{5}$ in lower orbit; mouth cleft 3 to $3\frac{1}{5}$ in head from snout end; nasal tube long as pupil; scaly interorbital $1\frac{1}{3}$ in lower orbit, concave. Gill rakes as feeble obsolete minute papillae; gill filaments $1\frac{1}{4}$ in lower orbit.

Scales 58 to ~~60~~ 60 in lateral line from above gill opening to caudal base and 6 or 7 more on latter (9 forward to dorsal intersection); 22 or 23 above, 27

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from Lethrinus haematopterus Schlegel in that the back is not so elevated anteriorly and the soft dorsal and anal also not so elevated. Especially is the anal higher than long, while in Lethrinus haematopterus it is noticeably longer than high.

Bleeker had 5 specimens, 220 to 260 mm. My specimens agree with his figure, though several features are conspicuous in alcoholic materials which he does not show. Thus the outer or anterior large lateral nuchal scales are quite dark brown and much contrasted. Also the caudal is very dark over its basal half or two thirds. The two dark transverse reddish basal lines Bleeker shows are not distinct at present in any of my specimens. In the present species the

2447

or 28 below. Scales all ctenoid.

Scales with 28 to 30 close set radiating basal striae; 10 or 11 rather long slender apical denticles, with 2 or 3 ^{series} basal elements; circuli fine, continuous. Right lateral line axial, complete. Left lateral line complete, distinct, also with front extension along and close below front dorsal base.

D. 73 or 74, fin height $2\frac{1}{4}$ to $2\frac{3}{5}$ in head; A. 53 or 54, fin height 2 to $2\frac{1}{8}$; caudal $1\frac{1}{6}$ to $1\frac{1}{4}$, convex behind; least depth of caudal peduncle $1\frac{7}{8}$ to $2\frac{1}{4}$; ventral $2\frac{2}{5}$ to $2\frac{3}{5}$.

Ecom drab to fawn color on ~~upper~~ right side, with obscure though slightly larger blotches formed more or less as darker scales

^{5 to 7} above, 14 or 15 below, 7 ~~or 8~~ ^{to 9} predorsal; caudal and pectoral bases finely scaled. Scales with 12 ~~or 13~~ ^{to 18} basal radiating striae, with 1 to 4 medial auxiliaries; ~~11 to 15~~ ^{8 to 15} apical denticles, with 4 to 8 transverse series of basal segments; circuli very fine.

D. X, 9, I, fourth spine $2\frac{1}{5}$ to 3 in head, I, fourth ray $2\frac{1}{8}$ to $2\frac{1}{5}$; A. III, 8, I, third spine $2\frac{7}{8}$ to 3, third ray $2\frac{1}{3}$ to $2\frac{3}{4}$; caudal $1\frac{1}{4}$ to $1\frac{1}{3}$, emarginate; least depth of caudal peduncle $2\frac{3}{5}$ to 3 ~~or 3~~; pectoral ~~1~~ to $1\frac{1}{5}$; ventral $1\frac{1}{4}$ to $1\frac{2}{5}$.

Largely pale brownish, little paler below or on abdomen. Head little darker brown than body. Vertical fins rather dark, especially caudal, which dusky basally. Paired fins dull brown. Iris dark brown.

East Indies, Philippines. Differs

around slightly paler or lighter blotches, usually as axial row along lateral line and another series on body along submarginally to dorsal and anal fin bases. Blotches more or less - as about 5 transverse series, often variable or with intermediate blotches. Orbits gray. Vertical fins with scattered small dark spots on rays, often larger and more scattered spots basally. Left side whitish, dark spots on vertical fins very obscure or indistinct.

Arabian Sea, Persian Gulf, Laccadive Sea, India, Bengal Bay, Philippines, China Sea.

Depth $2\frac{1}{4}$ to $2\frac{1}{2}$; head $2\frac{1}{2}$ to $2\frac{7}{8}$,
width $2\frac{1}{8}$ to $2\frac{4}{5}$. Snout $1\frac{3}{4}$ to $2\frac{1}{5}$ in
head; eye 3 to $4\frac{1}{5}$, $1\frac{1}{2}$ to $2\frac{2}{5}$ in snout,
greater to $1\frac{1}{4}$ in interorbital ^{with age}; maxillary
reaches opposite front nostril or about
 $\frac{3}{4}$ in snout, $2\frac{2}{5}$ to $2\frac{7}{8}$ in head; lips
broad, coriaceous; broad bands of villiform
teeth in jaws, with outer row in each
enlarged and usually conic, as 4 canines
in front of each and last ~~3 to~~ ^{3 to} 5 each
side as broad molars; interorbital $3\frac{3}{5}$
to $4\frac{4}{5}$, broadly convex; cheeks and most
naked region of head with fine weak
striae, on cheeks as vertical parallel
lines, otherwise as finely venulose. Gill
rakers $2\frac{to\ 5}{\cancel{4}} + 5\frac{or\ 6}{\cancel{1}}$, short stout tubercles,
little less than gill filaments.

Scales 42 to $4\frac{6}{\cancel{4}}$ in lateral line to
caudal base and ~~2 to~~ ^{2 to} 5 more on latter;

2658, 2659, D. 5272. Corregidor Light, N. 26° E., 25.50 miles (lat. 14° N., $120^{\circ} 22' 30''$ E.), China Sea vicinity southern Luzon. In 118 fathoms. July 14, 1908. Length 115 to 124 mm.

2492, D. 5273. Corregidor Light, N. 27° E., 27.25 miles (lat. $13^{\circ} 58' 45''$ N., Long $120^{\circ} 21' 35''$ E.), China Sea, vicinity southern Luzon. In 114 fathoms. July 14, 1908. Length 83 to 120 mm.

2690. D. 5302. China Sea, vicinity Hong Kong (lat. $21^{\circ} 42'$ N., long. $114^{\circ} 50'$ E.). In 38 fathoms. August 9, 1908. Length 93 mm.

3379. D. 5454. Legaspi Light, S. 64° W., 5.7 miles (lat. $13^{\circ} 12'$ N., long. $123^{\circ} 50' 30''$ E.), east coast of Luzon. In 153 fathoms. June 7, 1909. Length 119 mm.

1751, D. 5265. Matocot Point, ²⁴⁵⁰
Luzon, S. 17° E., 3.30 miles (lat.
13° 41' 15" N., long. 120° 00' 50" E.),
Verde Island Passage - and
Batangas Bay. In 135 fathoms.
June 6, 1908. Length 115 mm.

1751. D. 5265. Matocot Point,
S. 22° E., 7 miles (lat. 13° 44' 36" N.,
long. 120° 59' 15" E.), Verde Island
Passage and Batangas Bay. In
115 f.

2451

Aseraggodes dubius Weber

Aseraggodes dubius Weber, Siboga
Exped., vol. 57, p. 438, fig. 82, 1913
(type locality: lat. $6^{\circ}16'15''$ S., long.
 $114^{\circ}37'$ E., Java Sea, 82 meters).

— Weber and Beaufort, Fishes
Indo Austral. Archip., vol. 5, p.
156, fig. 39, 1929 (type: Java Sea;
Bali). — Chabanava, Bull. Soc. Zool.
France, vol. 56, 1931, p. 300 (diagnosis
in key).

Zool. Mededeel. Leiden, vol. 13, pts. 3-4, 1930,
p. 189 (type);

2452

Depth $2\frac{1}{5}$ to $2\frac{2}{3}$; head $3\frac{4}{5}$ to 4, width $2\frac{3}{4}$ to 3. Snout end to lower orbit 3 to $3\frac{3}{4}$ in head; lower orbit 5 to $6\frac{1}{2}$, $1\frac{1}{2}$ to 2 in snout; upper orbit advanced $\frac{1}{2}$ to $\frac{3}{5}$ from lower orbit; mouth cleft reaches $\frac{1}{2}$ to $\frac{3}{4}$ in lower orbit, curved, length $2\frac{3}{4}$ to $3\frac{3}{4}$ in head from front end of snout; interorbital narrow scaly groove, width $\frac{1}{2}$ of lower orbit. No gill rakers; gill filaments long as lower orbit.

Scales 62 to 64 in lateral line from above gill opening to caudal base (10 to 12 more forward on head to dorsal intersection; 25 or 26 above, 27 or 28 below. Caudal scaly basally, other fins naked, except scaly basal sheath. Scales with 21 to 24 slightly radiating basal striae; 9 to 11 slender apical denticles, with 4 or 5 transverse series of basal elements; circuli fine. Lateral line continuous, present on both sides. Scales of both sides ctenoid. D. 68 to 71, fin height 2 to $2\frac{1}{2}$

in head; A. 48 to 51, fin height ²⁴⁵³
 $1\frac{7}{8}$ to $2\frac{1}{4}$; caudal $1\frac{1}{5}$ to $1\frac{1}{3}$,
convex behind; least depth of caudal
peduncle 2 to $2\frac{1}{5}$; ventral $2\frac{2}{5}$
to $2\frac{1}{2}$

Rather pale brown, ^{on right side} with traces of
indistinct darker blotches along dorsal
and anal edges of body, most distinct
in young. Vertical fins with dark
spots on rays, also most distinct in
~~adult~~ young. Orbits dark gray. Left
side whitish, fins scarcely darker.
East Indies, Philippines.

20065. Batangas, Batangas River, Luzon. June 7, 1908. Length 49 mm. ²⁴⁵⁴

2689. D. 5302. China Sea, vicinity Hong Kong (lat. $21^{\circ}42'N$, long. $114^{\circ}50'E$). In 38 fathoms. August 9, 1908. Length 84 mm.

13 examples. Davao, Mindanao. May 16, 1908. Length 52 to 62 mm.

1645. D. 5266. Matocot Point, S. $22^{\circ}E$, 7 miles (lat. $13^{\circ}44'36''N$, long. $120^{\circ}59'15''E$), Verde Island Passage and Batangas Bay. In 100 to 135 fathoms. June 8, 1908. Length 90 mm.

1 example. D. 5105. Sueste Point Light, N. $57^{\circ}W$, 1.90 miles (lat. $14^{\circ}43'55''N$, long. $120^{\circ}12'50''E$), China Sea off southern Luzon. In 25 fathoms. January 8, 1908. Length 67 mm.

~~Example.~~

2455

2998. D. 5376. Jayabas Light
(outer), N. 53° W., 18.7 miles
(lat. $13^{\circ}42'50''$ N., long. $121^{\circ}51'30''$ E.),
vicinity Marinduque Island. In 90
fathoms. March 2, 1909. Length
107 mm.

3721. D. 5371. Jayabas Light
(outer), N. 43° W., 16 miles (lat.
 $13^{\circ}49'40''$ N., long. $121^{\circ}40'15''$ E.),
vicinity Marinduque Island. In
83 fathoms. February 24, 1909.
Length 101 mm.

2456

Aseraggodes filiger Weber

Aseraggodes filiger Weber, Siboga
Exped. vol. 57, pp. 436, pl. 11, fig. 4,
1913 (type locality: Buha Bay,
Rotti Island, 34 meters). — Weber
and Beaufort, Fishes Indo Austral.
Archip., vol. 5, p. 152, fig. 40, 1929
(Java Sea; type). — Chabanaud,
Zool. mededeel. Leiden, vol. 13, pts.
3-4, 1930, p. 192 (type).

2457

Aseraggodes guttulatus Kaup

Aseraggodes guttulatus Kaup, Archiv
Naturges., vol. 24, pt. 1, p. 103, 1858
(type locality: no locality). — Chabanaud,
Bull. Soc. Zool. France, vol. 56, 1931, p. 362 (diagnosis in key).
Volea guttulata Günther, Cat. Fishes
Brit. Mus., vol. 4, p. 477, 1862
(copied).

Zool. Mededeel. Leiden, vol. 13, pts. 3-4, 1930,
p. 190 (types);

2458

Aseraggodes haackeanus (Steindachner)

Solea (Achirus) haackeana Steindachner,
Zeitschr. Akad. Wiss. Wien, vol. 20, p.
95, 1883 (type locality: South
Australia); Sitzb. Ber. Akad. Wiss.

Wien, math.-nat. Kl., vol. 88, pt. 1, p.
1104, pl. 1, fig. 3, 1884.

Aseraggodes haackeana McCulloch,
Mem. Queensland Mus., vol. 5, p. 59,
1916. — Waite, Rec. South Austral.
Mus., vol. 2, p. 160, fig. 262, 1921;
Fishes of South Austral., p. 184,
fig. , 1923.

Zool. meded. Leiden, vol. 13, pts. 3-4, 1930, p. 190^v (compiled);

Aseraggodes haackeanus Norman,
Biol. Res. Endeavour, vol. 5, pt. 5, p.
289, June 15, 1926 (compiled). —

McCulloch, Austral. Mus. Mem., no.
5, pt. 2, p. 283, Sep. 10, 1929 (compiled).

— Chabanand, Bull. Soc. Zool. France, vol.
56, p. 291, 1931 (diagnosis in key).

1801, p. 231 (India). — Lacepède, Hist. Nat. Poiss., vol. 4, 1802, pp. 455, 478, plate 12, fig. 1 (East Indies).

Chetodon macrolepidotus Bonnaterre, Tabl. Ichth., 1788, p. 85, plate 46, fig. 175 (India).

Heniochus macrolepidotus Cuvier, Hist. Nat. Poiss., vol. 7, 1831, p. 70⁷³ (Mauritius, Manila, Celebes, New Guinea, Tringhemale). —

Rüppell, Neue Wirbelth. Fische, 1839, p. 36 (Red Sea). — Schlegel, Faun. Japon. Poiss.,

ser. 5-6, 1844, p. 82, plate 44, fig. 1 (Nagasaki).

— Richardson, Ichth. China Jap., 1846, p. 246 (copied). — Günther, Cat. Fish. Brit. Mus.,

vol. 2, 1860, p. 39 (Ceylon, Amboina, Port Essington, Australia). — Guichenot, Notes

S. Remion, vol. 2, 1862, p. 26. — Bleeker,

Ned. Tijds. Dierk., deel 2, 1865, p. 31 (Manila Bay). — Day, Fishes of Malabar, 1865, p. 33.

— Playfair, Fishes of Zanzibar, 1866, p. 37.

— Klunzinger, Verh. zool. bot. Ges. Wien,

Solea (*Aseraggodes*) *textilis* Ramsay and ²⁴⁵⁹
Ogilby, Proc. Linn. Soc. New South Wales,
ser. 2, vol. 1, pt. 1, p. 6, May 25, 1886
(type locality: St. Vincent Gulf,
South Australia, 1 1/2 fathoms).

bands diffuse within brown and little marked.

Philippines, Formosa. A handsome species, greatly like Heniochus varius, but with pale lips and a pale band vertically across the muzzle. It also has a uniformly pale or light soft dorsal and caudal, besides most of the spinous dorsal.

2460

Aseraggodes jaubertensis (Rendahl)

Achirus jaubertensis Rendahl, Kon.
Svensk. Vet. Akad. Handl. Stockholm,
vol. 61, no. 9, p. 16, 1921 (type locality:
Cape Jaubert, North West Australia).

Aseraggodes jaubertensis Mc Culloch,
Austral. Mus. Mem., No. 5, pt. 2, p.
284, Sep. 10, 1929 (compiled).

Norman, Biol. Res. Endeavour, vol. 5, pt. 5,
p. 292, June 15, 1926 (reference). —

Aseraggodes kaianus (Günther)²⁴⁶¹

Solea kaiana Günther, Rep. Voy.
Challenger, vol. I, pt. 6, p. 49, pl. 21, fig.
C, 1880 (type locality: Ki Islands,
129 fathoms).

Aseraggodes kaianus Weber and
Beaufort, Fishes Indo Austral. Archip,
vol. 5, p. 155, 1929 (type).

2462

Aseraggodes blunzingeri (Weber)

Pardachius blunzingeri Weber, Nova Guinea, vol. 5, pt. 2, p. 250, pl. 13, fig. 2, 1908 (type locality: Meranke River mouth; Alkmaar, New Guinea). —
↑ Mc Culloch, Austral. Mus. Mem., vol. 1, pt. 1, p. 100, 1913 (Earen River; Lorentz River; Bivak River; Alkmaar). — Fowler, Mem. Bishop Mus., vol. 10, p. 94, 1928 (compiled). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 5, p. 157, 1929 (Weber's materials). — Chabanaud, Zool. Mededeel. Leiden, vol. 13, pts. 3-4, 1930, p. 190 (type).

2462

Aseraggodes blunzingeri (Weber)

Pardachius blunzingeri Weber, Nova Guinea, vol. 5, pt. 2, p. 250, pl. 13, fig. 2, 1908 (type locality: Meranke River mouth; Alkmaar, New Guinea). — Mc Culloch, Austral. Mus. Mem., no. 5, pt. 2, p. 284, Sep. 10, 1929 (reference). Aseraggodes blunzingeri Weber, Nova Guinea, vol. 9, pt. 4, p. 588, 1913 (Earen River; Lorentz River; Biwak River; Alkmaar). — Fowler, Mem. Bishop Mus., vol. 10, p. 94, 1928 (compiled). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 5, p. 157, 1929 (Weber's materials). — Chabanaud, Zool. Mededeel. Leiden, vol. 13, pts. 3-4, 1930, p. 190 (type).

2463

Aseraggodes kobensis (Steindachner)

Volea (Achirus) kobensis Steindachner,
Ann. Hofmus. Wien, vol. 11, p. 218,
1896 (type locality: Kobe).

Aseraggodes kobensis Jordan and Snyder,
Annot. Zool. Japon., vol. 3, p. 122, 1901
(reference).

Aseraggodes kobensis Jordan and Starck,
Proc. U. S. Nat. Mus., vol. 31, p. 230,
fig. 24, 1906 (Nagasaki). — Snyder,
Proc. U. S. Nat. Mus., vol. 42, p. 440,
1912 (Shimizu). — Jordan, Tanaka,
Snyder, Journ. College Sci. Tokyo,
vol. 33, p. 333, fig. 282, 1913 (reference).
— Izuka and Matsuura, Cat. Zool. Spec.
Mus. Tokyo, Verteb., p. 115, 1920
(Enoura, Suruga). — Chabanand,
Bull. Soc. Zool. France, vol. 56, p. 300,
1931 (diagnosis in key).

(Zool. Mededeel., vol. 13, pts. 3-4, 1930, p. 189
(~~compiled~~) type);

2464

Aseraggodes microlepidotus Weber

Aseraggodes microlepidotus Weber,
Siboga Exped., vol. 57, p. 438, pl. 11,
fig. 2, 1913 (type locality: lat. $8^{\circ}19'S$,
long. $117^{\circ}41'E$, Saleh Bay, Sumbawa,
274 meters). — Weber and Beaufort,
Fishes Indo Austral. Archip., vol. 5,
p. 153, 1929 (type). — Chabanaud,
Bull. Soc. Zool. France, vol. 56, p. 300,
1931. (diagnosis in key).

(Zool. Mededeel. Leiden, vol. 13, pts. 3-4, 1930,
p. 189 (type);

2465

Aseraggodes macleayanus (Ramsay)

Tolea macleayana Ramsay, Proc. Linn. Soc. New South Wales, vol. 5, pt. 4, p. 462, 1881 (type locality: Manly, New South Wales).

Aseraggodes macleayanus Ogilby, Mem. Queensland Mus., vol. 5, p. 137, pl. 15, 1916 (). —

McCulloch, Austral. Zool., vol. 2, p. 47, pl. 13, 1921. — Norman, Biol.

Res. Endeavour, vol. 5, pt. 5, p. 289,

June 15, 1926 (compiled). — McC

Culloch, Austral. Mus. Mem., no. 5, ^{Richmond River,}

pt. 2, p. 283, Sep. 10, 1929 (~~compiled~~).

(Gloucester Head; 16 to 35 fathoms).

Aseraggodes macleayana Roughley, Fishes of Australia, p. 175, pl. 60, 1916.

(— Chabanaud, Zool. Meded. Leiden, vol. 13, pts. 3-4, 1930, p. 191 (compiled).

724

Chaetodon dux Gmelin, Syst. Nat. Linn., 1789,
p. 1255, India. — Forster, Faun. Indica,
1795, p. 15.

Holacanthus dux Lacépède, Hist. Nat. Poiss.,
vol. 4, 1802, pp. 527, 534 (Japan). — Cuvier,
Hist. Nat. Poiss., vol. 7, 1831, p. ¹⁸⁴438 (Dorey
Harbor, New Guinea). — Rüppell, Neue Wirbelth.
Fische, 1839, p. 37 (Red Sea).

Holacanthus chrysurus Cuvier, l.c., p. ¹⁸⁸441.

Dorey Harbor, New Guinea.

Holacanthus forsteri Günther, Cat. Fish.

Brit. Mus., vol. 2, 1860, p. 48, Ceram (name only).

Holacanthus forsteri Bleeker, Verh. Kon.

Akad. Wet., Amsterdam, deel 17, no. 2, 1877,

p. 139 (name in synonymy).

Holacanthus bispinosus (part) Jordan and

Evermann, Bull. U. S. Fish Comm., vol. 23, pt. 1,

1903 (1905), p. 378 (no plate, description from

Samoaan examples).

Solea fluviatilis Ramsay, Proc. Linn.
Soc. New South Wales, vol. 7, pt. 1, p. 111,
May 23, 1882 (type locality: Hunter
River, New South Wales, in fresh
water).

363, fig. 5 (non fig. 3) (Celebes, Flores, Timor,
Ceram, Amboina, Banda, New Guinea). 723

— Day, Faun. British India, vol. 2, 1889, p. 17.

— Klunzinger, Fisch. Roth Meer., 1884, p. 60.

— Sauvage, Hist. nat. Madagascar, Poiss.; 1891,
p. 266, plate 33, fig. 3. — Jordan and Seale,

Bull. Bur. Fisher., vol. 26, 1906 (1907), p. 34

(Manila). — Weber, Siboga Exped., band 65,

1913, p. 312 (Banda). — Fowler, Bishop Mus.

Bull., no. 22, 1925, p. 34 (Samoa).

Chaetodon fasciatus (non Forsk.) Bloch, Naturg.

Aust. Fisch., band 3, 1787, p. 53, plate 195

(East Indies). — Walbaum, Arted. Pisc.,

vol. 3, 1792, p. 406.

Chaetodon fasciatus Bonnaterre, Tabl. Ichth.,

1788, p. 92, plate 92, fig. 382 (East Indies).

Chaetodon boddaerti Gmelin, Syst. Nat. Linn.,

1789, p. 1243 (on Boddaert 1772).

Acanthopodus boddaerti Lacépède, Hist. Nat.

Poiss., vol. 4, 1802, pp. 558, 559 (Sea of Indies).

2467

Aseraggodes melanospilus (Bleeker)

Archius melanospilus Bleeker, Nat.
Tijds. ned. Indië, vol. 7, p. 257,
1854 (type locality: Manado, Celebes).

Archius melanospilus Bleeker, Atlas
Ichth. Ind. Néerl., vol. 4, p. 23, pl.
(13) 244, fig. 1, 1866-72 (Singapore,
Celebes, Batjan, Amboina).

Liachius melanospilus Weber and
Beaufort, Fishes Indo Austral.
Archip., vol. 5, p. 158, fig. 42 (colored
side), fig. 43 (blind side of head),
1929 (Bleeker's specimens; type of
→ A. melanospilus).

† Aseraggodes melanospilus Chabanau,
Zool. Mededeel. Leiden, vol. 13, pts.
3-4, 1930, p. 191 (type of Liachius
nitidus).

Nat. Mus., vol. 25, p. 366, ^{fig. 28,} 1902 (Guan,
Formosa). — Jordan and Starks,

2467

Aseraggodes melanospilus (Bleeker)

Archius melanospilus Bleeker, Nat.
Tijds. Ned. Indië, vol. 7, p. 257,
1854 (type locality: Manado, Celebes).

Archius melanospilus Bleeker, Atlas
Ichth. Ind. Néerl., vol. 4, p. 23, pl.
(13) 244, fig. 1, 1866-72 (Singapore,
Celebes, Batjan, Amboina).

Liachirus melanospilus Weber and
Beaufort, Fishes Indo Austral.

Archip., vol. 5, p. 158, fig. 42 (colored
side), fig. 43 (blind side of head),
1929 (Bleeker's specimens; type of

→ Liachirus nitidus Günther, Cat. Fishes
Brit. Mus., vol. 4, p. 479, 1862 (type
locality: China). — Steindachner,
Sitzs. Ber. Akad. Wiss. Wien, math.-
nat. Kl., vol. 55, pt. 1, p. 588 (China).

— Jordan and Evermann, Proc. U. S.
Nat. Mus., vol. 25, p. 366, ^{fig. 28,} 1902 (Guan,
Formosa). — Jordan and Starke,

m 86
pung
kind
mm

Formosa

Lat. 10° N.

Depth 1000 fms.

Spec. 1000 fms.

Spec. 1000 fms.

Spec. 1000 fms.

Spec. 1000 fms.

Spec. 1000 fms.

Spec. 1000 fms.

lateral line. 1000 fms. hind half of each lobe blackish. Length

93 mm.

107
20
87

2468

Proc. U. S. Nat. Mus., vol. 31, p. 231,
fig. 25, 1906 (Yilan). — Jordan,
Tanaka, Snyder, Journ. College
Sci., vol. 33, p. 333, fig. 283, 1913
(reference). — Fowler and Bean,
Proc. U. S. Nat. Mus., vol. 62, art.
2, p. 67, 1922 (Talsao, Formosa). —
Rendahl, Arkiv Zool., vol. 16, no. 2,
p. , 1924 (Swatow; Kuang-
Tung). — Chu, Biol. Bull. St.
John's Univ., Shanghai, no. 1, p. 93,
Jan. 1931 (reference).

2469

Aseraggodes melanostictus (Peters)

Solea (Achirus) melanosticta Peters,
Monatsh. Akad. Wiss. Berlin, 1876,
⁽¹⁸⁷⁷⁾ p. 845 (type locality: Bougainville
Island, 40 fathoms).

Aseraggodes melanostictus Fowler,
Mem. Bishop Mus., vol. 10, p. 94,
1928 (compiled). — McCulloch,
Austral. Mus. Mem., no. 5, pt. 2, p.
284, Sep. 10, 1929 (reference).

Horman, Biol. Res. Endeavour, vol. 5,
pt. 5, p. 290, fig. 12, June 15, 1926
(~~Gladstone, Queensland~~).
part; not material

— Chabanand, Zool. Mededeel. Leiden, vol.
13, pts. 3-4, 1930, p. 190 (type).

2470

Aseraggodes normani Chabanaud

Aseraggodes normani Chabanaud, Ann.
Mag. Nat. Hist., ser. 10, vol. 5, p. 241,
1930 (~~type locality: Queensland~~
on Norman).

Aseraggodes melanostictus (not Peters)
Norman, Biol. Res. Endeavour, vol. 5,
pt. 5, p. 290, fig. 12, June 15, 1926
(type locality: Gladstone, Queensland).

2471

Aseraggodes pellucidus (Bennett)

Achirus pellucidus Bennett, Whaling
Voyage, p. 277, 1840 (type locality: J
lat. 27° S., long. 170° W., Pacific Ocean;
day's sail from Marquesas Islands).
— Fowler, Mem. Bishop Mus.,
vol. 10, p. 93, 1928 (compiled).

Aseraggodes pellucidus Jordan and
Seale, Bull. Bur. Fisher., vol. 25,
p. 413, 1905 (1906) (name).

2472

Aseraggodes ramsayi (Ogilby)

Solea ramsayi Ogilby, Mem. Austral.
Mus., vol. 2, p. 70, Pl. 3, fig. 4, 1889
(type locality: Lord Howe Island).

Aseraggodes ramsayi Waite, Rec.

Austral. Mus., vol. 5, pt. 3, p. 226
(reference).

Aseraggodes sinus-arabici Chabanaud

Aseraggodes sinus-arabici Chabanaud,
Bull. Soc. Zool. France, vol. 66, 1931,
p. 296 (type locality: Gulf of Suez,
Djibouti).

2474

Aseraggodes texturatus Weber

Aseraggodes texturatus Weber, Siboga
Exped., vol. 57, pt. , p. 437, fig. 81,
1913 (type locality: lat. $10^{\circ}24'9''$ S., long.
 $123^{\circ}28'7''$ E., Timor Sea, 216 meters).
— Weber and Beaufort, Fishes Indo
Austral. Archip., vol. 5, p. 155, fig. 41,
1929 (type). — Chabanaud, Zool. Mededel.
Leiden, vol. 13, pts. 3-4, 1930, p. 189 (type).

2475

Genus Pardachirus Günther

Pardachirus Günther, Cat. Fishes

Brit. Mus., vol. 4, p. 478, 1862.

(Type Achirus marmoratus Lacépède,
designated by Jordan, Genera of Fishes,
pt. 3, p. 319, 1919.)

Body oblong. Eyes on right side.
Mouth strongly restricted, more
developed on right side than on
blind side. Minute teeth on left
rami of jaws only. Front nostril
wide tube above middle of mouth;
hind nostril before eye; nostrils
on blind side both narrow tubes,
placed above each other and well
above mouth. Gill membranes
confluent, free from isthmus.
Scales feebly ctenoid, smaller
ones along vertical fins cycloid.

745
1249. Candaraman Island. January
4, 1909. Length 91 mm.

7966, 16441, 21453 to 21455. Danawan
Island and Si Amil Island. September
27, 1909. Length 56 to 92 mm.

12694. Gandra Island. September
20, 1909.

4840 and 22230. Little Santa Cruz
Island. May 26, 1908. Length 89 to 105 mm.

3929 and 4739. Makyan Island.
November 29, 1909. Length 70 to 88 mm.

4830. Malampa Island. September 8,
1909. Length 103 mm.

4712 [1371]. Malapascua Island.
March 16, 1909. Length 112 mm. Blue
black. Lateral spot clear white. Dorsal
spines and membranes black, not yellow
as shown in Bleeker's plate; tip of
soft dorsal purple. Anal edge lemon
yellow on a bluish white stripe.

(scales may also become cycloid through wear). Straight axial lateral line on both sides, also second on blind side along upper profile of neck, beginning on snout. Left side of head covered with rather long filaments, forming fringe along lower profile and opercular borders of both sides. Dorsal and anal separate from caudal. All vertical fin rays divided. Each dorsal and anal ray with basal pore. No pectorals. Ventrals unsymmetrical, right one long based, membrane attached posteriorly on base of first anal ray; left one short based and

terminally, variably dark.

East Indian region. The large whitish superior lateral blotch is variable in size, extending over from 3 to 6 scales in width.

less developed. Vent. 2477
asymmetrical, on right side.

Indian and Western Pacific
Oceans.

743

Depth $1\frac{4}{5}$ to $1\frac{7}{8}$; head $2\frac{7}{8}$ to $3\frac{1}{2}$, width $1\frac{3}{5}$ to 2, snout 3 to $3\frac{1}{5}$; eye 3 to $3\frac{1}{2}$, 1 to $1\frac{1}{6}$ in snout, equals interorbital or slightly greater in young; maxillary reached nostrils, to eye in young, $3\frac{1}{4}$ to $3\frac{3}{5}$ in head; interorbital $3\frac{1}{4}$ to $3\frac{2}{3}$, broadly convex; preopercle spine along upper edge $2\frac{1}{4}$ to $4\frac{3}{4}$. Gill rakers 5+11, robust, lanceolate, longest $\frac{1}{4}$ of gill filaments which $1\frac{2}{3}$ in eye.

Scales 38 to 40 between gill opening and caudal base; 7 scales above lateral line, 20 or 21 scales below. Scales with 6 to 9 basal radiating striae; apical denticles 15 to 19, each with long slender rootlet; circuli fine.

D. XIV, 16, I or 17, I, last spine $1\frac{2}{3}$ to $1\frac{3}{4}$ in head, eighth ray 1 to $1\frac{1}{5}$; A. III, 16, I, or 17, I, third spine $1\frac{3}{5}$ to $1\frac{4}{5}$, eighth ray $1\frac{1}{4}$ to $1\frac{1}{3}$; least depth of caudal peduncle 2 to $2\frac{1}{5}$; caudal rounded convexly behind, 1 to $1\frac{1}{5}$; pectoral 1 to $1\frac{1}{8}$; ventral $3\frac{1}{8}$ to $3\frac{1}{4}$ in combined head and body.

Generally blackish, head with slightly brown tint. Iris and preopercle spine with blue tinge. Large white blotch on side of back. Upper edge of spinous dorsal narrowly bluish. A line caudal edge narrowly whitish to grayish, with submarginal blackish band. Entire lower anal edge broadly whitish, with narrow dividing bluish line. Paired fins dusky-brown, ventrals pale to whitish.

The following doubtful species
is not located by Norman:

Pardachirus maculatus (Schneider)

Pleuronectes maculatus Schneider,

Syst. Ichth. Bloch, p. 157, 1801

(type locality: Trunquelbar).

Achirus maculatus Day, Fishes

of India, pt. 3, p. 447, 1877 (type);

Fauna British India, Fishes,

vol. 2, p. 447 (compiled).

742

Holacanthus tibicen Cuvier.

Holacanthus tibicen Cuvier, Hist. Nat. Poiss.,
vol. 7, 1831, p. ~~130~~¹⁷³. no locality (Holland Collection).
— Günther, Cat. Fish. Brit. Mus., vol. 2, 1860, p.
46 (copied). — Bleeker, Atlas Ichth. Ind.
Néerl., vol. 9, 1877, p. 62, plate (8) 370, fig. 4
(Celebes, Flores, Solor, Ternate, Ambona, Ceram).
— Waite, Records Austral. Mus., vol. 3, 1900,
p. 203 (Lord Howe Island). — Jordan and
Fowler, Proc. U. S. Nat. Mus., vol. 25, 1902, p. 547
(Naha, Riu Kiu). — Weber, Siboga Exped., band
65, 1913, p. 312 (Banda).

Holacanthus leucopleura Bleeker, Nat. Tijds.
ned. Indie, deel 5, 1853, p. 79. Luwajing,
Solor. — Günther, Cat. Fish. Brit. Mus., vol.
2, 1860, p. 46 (Ambona). — Günther, Cruise
of Curacao, Branchley, 1873, p. 410 (Misol,
Moluccas).

Pardachirus hedleyi Ogilby ²⁴⁷⁹

Pardachirus hedleyi Ogilby, Mem.
Queensland Mus., vol. 5, p. 144, pl.
17, July 10, 1916. (type locality:
Port Jackson, New South Wales).

— McCulloch, Austral. Mus. Mem.,
no. 5, pt. 2, p. 284, Sep. 10, 1929
(reference). — Norman, Rec. Indian
Mus., vol. 30, pt. 2, p. 188, July
1928 (diagnosis in key).

— McCulloch, Austral. Zool., vol. 2,
p. 47, pl. 13, 1921. — Norman, Biol. Res.
Endeavour, vol. 5, pt. 5, p. 288, June
15, 1926 (compiled); Rec. Indian
Mus., vol. 30, pt. 2, p. 188, July 1928
(diagnosis in key).

Achirus hedleyi Chabanand, Zool. Anzeiger,
vol. 93, pt. 3/4, 1931, p. 101 (diagnosis in
key).

We feel certain that the young example described by Day is the present species, and that its so called yellow coloration is the result of preservation. Day mentions his example was captured "some years since"! We find a still smaller example than Day's type and it shows a brown coloration like our other specimens. Moreover its tail is slightly emarginate, as Day shows. Harpurus gnophodes is the adult stage, with greatly increased narrow blue longitudinal lines and many having faded from the type. We are thus able to establish the species with some indication of its life cycle.

2480

Pardachirus marmoratus (Lacépède)
Achirus marmoratus Lacépède,
Hist. nat. Poiss., vol. 4, pp. 658,
660, 1802 (type locality: Mauritius);
vol. 3, pl. 12, fig. 3, 1800. — Kaup,
Archiv naturges., vol. 24, pt. 1, p.
102, 1858 (reference). — Chabanaud, Zool.
Anzeiger, vol. 93, pt. 3/4, 1931, p. 102 (diagnosis in key).

Pardachirus marmoratus Günther,
Cat. Fishes Brit. Mus., vol. 4, p. 478,
1862 (Madagascar). — Norman,
Rec. Indian Mus., vol. 30, pt. 2,
p. 188, July 1898 (~~diagnosis in key~~)
Muscat; Persian Gulf).

— Sauvage, Hist. nat. Madagascar,
Poiss., p. 472, 1891. — Barnard, Ann.
South African Mus., vol. 21, pt. 1, p.
405, June 1925.

Depth $1 \frac{7}{8}$ to 2; head $3 \frac{2}{5}$ to $3 \frac{3}{5}$, width $1 \frac{1}{5}$ to $1 \frac{1}{4}$ to $1 \frac{1}{2}$ in interorbital; eye 3 to 4, 2 to $3 \frac{1}{4}$ in snout, 1 to $1 \frac{1}{2}$ in interorbital; teeth I2 to I4 in each jaw, rather large; maxillary 3 to $4 \frac{1}{5}$ in head; interorbital $2 \frac{3}{4}$ to 3, convexly elevated; opercle, preopercle flange and humeral arch with few coarse, obsolete striae. Gill rakers $5 + 15$, short, weak, flexible points.

Scales very small, broad, with very fine numerous circuli; with 15 to 27 apical denticles, which with 4 or 5 transverse series of basal elements.

D. IX, 24, 1 or 25, 1, last spine $1 \frac{4}{5}$ to $1 \frac{7}{8}$ in head, first ray $1 \frac{1}{3}$ to $1 \frac{3}{4}$; A. III, 23, 1 or 24, 1, third spine $2 \frac{1}{5}$ to $2 \frac{2}{5}$, first ray $1 \frac{3}{5}$ to 2; caudal deeply emarginate, lunate, tips long and slender with upper usually little longer, $2 \frac{1}{3}$ to $2 \frac{2}{5}$ in combined head and body; least depth of caudal peduncle $2 \frac{1}{5}$ to $2 \frac{1}{2}$ in head; pectoral $3 \frac{1}{8}$ to $3 \frac{1}{4}$ in combined head and body; ventral $3 \frac{1}{5}$ to $3 \frac{1}{4}$; caudal spine 3 to $3 \frac{2}{3}$ in head.

? Pleuronectes barbatus Bonnaterre,
 Encyclop. Méth. Ich., p. 74, 1788
 (type locality: unknown locality).

— Shaw and Nodder, Naturalists
 Miscellany, vol. 21, p. , 1810
 (India; Red Sea).

Acherus barbatus Lacépède, Hist.
 Nat. Poiss., vol. 4, pp. 658, 660, 1802
 (no locality). — Geoffroy, Ann.
 Mus. Hist. Nat. Paris, vol. 1, p.
 152, pl. 11, ().

— Rüppell, Atlas Reise nördl.
 Afrika, Fische, p. 122, pl. 31, fig.
 2, 1828 (Mohila).

? Pleuronectes albus Schneider, Syst.
 Ichth. Bloch, p. 159, 1801 ~~Explanatory~~
~~addition~~ (on Gronow, Zoophylacii,
 p. 75, no. 255, 17. ; type locality:
 Amboina).

Previously only known from Queensland. Our examples agree with Gunther's account of Richardson's type. The "very numerous undulated and irregular bluish longitudinal lines" have apparently largely faded, though there are still traces of them in some of the specimens. Likewise the "whitish band across the basal portion of the caudal fin". We do not find the black spot ~~spot~~ in the basal region of the last dorsal and anal rays. It is in the pale hind border to the pectoral that the most striking and constant character is found, and this will distinguish the species most any time. Although greatly different in the presence of 31 dorsal and 28 or 29 anal rays, besides the dorsals and anals without dark longitudinal bands we feel that this species is very close to Hepatus sohaln (Forskål), apparently only known from the Red Sea.

2482

? Pleuronectes maculosus Gray,
Cat. Fishes Grenow, p. 89, 1854
(type locality: Mari Americano).
Pardachius pavoninus (not
Lacépède). Pellegrin, Bull. Soc. Zool.
France, vol. 39, p. 229, 1914
(Madagascar).

Largely uniform dull brownish, becoming more or less dusky on back with age. Often pale or ochraceous tints in front of and around eye posteriorly, with traces of dark waved lines more or less horizontal. Iris brownish. Fins all more or less brownish, vertical ones dusky with age. In many examples of small size soft dorsal and anal each with 4 or 5 longitudinal, parallel dark bands. Others also show pale bluish or gray longitudinal band. Pectoral usually brownish with broad, even, pale, yellowish border posteriorly, always conspicuous.

Pardachirus pavoninus (Lacépède)

Achirus pavoninus Lacépède, Hist.

Nat. Poiss., vol. 4, pp. 658, 660,

1802 (type locality: no locality,

"la collection de Hollande, cédée à la France"). — Cantor, Journ.

Asiatic Soc. Bengal, vol. 18, pt. 2, p. 1207, 1849 (1850) (Pinang Sea).

— Kaup, Archiv Naturges., vol. 24, pt. 1, p. 102, 1858 (reference).

— Bleeker, Atlas Ichth. Ind.

Néerl., vol. 6, p. 24, pl. (10) 241,

fig. 1, 1866-72 (Java, Sumatra,

Nias, Pinang, Singapore, Banca,

Celebes, Batjan, Ceram, Aru);

Verh. Kon. Akad. Wet. Amsterdam, vol. 18 (Chine), p. 3, 1879 (China).

— Day, Fishes of India, pt. 3,

p. 427, pl. 93, fig. 2, 1877 (Port

Blair); Fauna British India,

Fishes, vol. 2, p. 446, fig. 160, 1889.

— Chu, Biol. Bull. St. John's Univ. Shanghai,

no. 1, p. 92, Jan. 1931 (reference). — Chabaud, Zool. Anzeiger, vol. 93, pt. 3/4, 1931, p. 102 (diagnosis in key).

Depth $1 \frac{4}{5}$ to $2 \frac{1}{8}$; head $3 \frac{1}{2}$ to $3 \frac{2}{3}$, width $2 \frac{1}{8}$ to $2 \frac{1}{2}$. Snout $1 \frac{1}{3}$ to $1 \frac{2}{5}$; eye $4 \frac{1}{8}$ to $6 \frac{1}{8}$, $3 \frac{1}{8}$ to $4 \frac{1}{2}$ in snout, $1 \frac{1}{2}$ to $1 \frac{7}{8}$ in interorbital; teeth 18 to 26 in jaws; maxillary $3 \frac{1}{2}$ to $3 \frac{4}{5}$ in head; interorbital $2 \frac{7}{8}$ to 3, convexly elevated; opercle, preopercle flange and humeral arch striate, striae rather weak. Gillrakers $6 + 12$, short points.

Scales rather broadly ovoid, firmly adherent, with very fine, numerous circuli; 5 to 10 rows of apical or subapical tubercles, with 6 to 8 series transversely.

~~IX~~,
D. ~~25~~, 1 or 26, 1, ninth spine $1 \frac{2}{5}$ to $1 \frac{3}{4}$ in head, first branched ray $1 \frac{1}{2}$ to $1 \frac{2}{3}$; A. III, 23, 1 or 24, 1, third spine 2 to $2 \frac{2}{5}$, first branched ray $1 \frac{2}{5}$ to $1 \frac{3}{4}$; caudal deeply emarginate or lunate, lobes extended in long points, $2 \frac{1}{3}$ to $2 \frac{2}{5}$ in combined head and body; least depth of caudal peduncle $2 \frac{2}{3}$ to $2 \frac{3}{4}$ in head; pectoral I to $1 \frac{1}{8}$; ventral $1 \frac{1}{4}$ to $1 \frac{2}{3}$; caudal spine $5 \frac{1}{4}$ to $5 \frac{3}{4}$.

2484

Pleuronectes pavoninus Shaw, General
Zool., vol. 4, p. 310, 1804.

Pardachius pavoninus Günther,
Cat. Fishes Brit. Mus., vol. 4, p.
479, 1862 (Pinang, Singapore, Moluccas).
— Schmeltz, Cat. Mus. Godeffroy,
no. 4, p. 24, 1869 (Pelew Islands).
— Günther, Cruise of Curacao,
Brenchley, p. 410, 1873 (Solomon
Islands). — Macleay, Proc. Linn.
Soc. New South Wales, ^{vol. 6,} p. 136, 1881
(Cape Grenville). — Meyer, Anal.
Soc. Españ. Hist. Nat. Madrid, vol.
14, p. 40, 1885 (North Celebes; Cebu).
— Seale, Occas. Pap. Bishop Mus.,
vol. 4, no. 1, p. 86, 1906 ('Fate'). —
Evermann and Seale, Bull. Bur.
Fishes, vol. 26, p. 107, 1906 (1907)
(Bacon). — Günther, Journ. Mus.

Largely dull chocolate to umber brown, with more or less dull uniform tinge. Many fine dark or dusky longitudinal parallel lines on head and body. Sometimes a pale ill defined interocular band. Edge of opercle or gill opening sometimes narrowly dark. Iris yellowish brown. Caudal spine often with groove dusky to blackish. Dorsals, anals and caudal largely dusky brown, former 2 fins with narrow blue border and also narrow basal line to same of each basally. Base of caudal with pale whitish transverse band, variously distinct, often not evident. Sometimes caudal with traces of dark spots. Paired fins uniformly brown, variously dark to dusky.

Red Sea, Mauritius, Madagascar, East Indies, Philippines, Riu Kiu,
Polynesia,
Japan, Micronesia, Hawaii.

Godfrey, vol. 8, pt. 16, p. 347, 1909
(New Pommernia, Solomons,
Tonga). — Kendall and Goldborough,
Mem. Mus. Comp. Zool., vol. 26, p.
332, 1911 (Tonga). — Snyder,
Proc. U. S. Nat. Mus., vol. 42, p.
517, 1912 (Okinawa). — Weber,
Siboga Exped., vol. 57, p. 439, 1913
(Macassar; Saleyer; Rotti; 18 to 45 meters).

— Ogilby, Mem. Queensland Mus.,
vol. 5, p. 142, pl. 16, 1916 (Raine Island).
— Fowler and Bean, Proc. U. S. Nat. Mus., vol.
62, pt. 2, p. 67, 1922 (Zamboanga).
— Norman, Biol. Res. Endeavour,
vol. 5, ^{pt. 2, June 15,} p. 288, 1926 (compiled);

Rec. Indian Mus., vol. 30, pt. 2, p. 187,
fig. 6, July 1928 (Andaman). —

↑ — Fowler, Mem. Bishop Mus., vol. 10,
p. 94, 1928 (Fate; Tonga).

Salayer, Rotti, New, South New
Guinea). — McCulloch, Austral.

Godeffroy, vol. 8, pt. 16, p. 347, 1909
(New Pommernia, Solomons,
Tonga). — Kendall and Goldborough,
Mem. Mus. Comp. Zool., vol. 26, p.
332, 1911 (Tonga). — Snyder,
Proc. U. S. Nat. Mus., vol. 42, p.
517, 1912 (Okinawa). — Weber,
Siboga Exped., vol. 57, p. 439, 1913
(Macassar; Saleyer; Rotti; 18 to 45 meters).

— Ogilby, Mem. Queensland Mus.,
vol. 5, p. 142, pl. 16, 1916 (Raine Island).
— Fowler and Bean, Proc. U. S. Nat. Mus., vol.
62, pt. 2, p. 67, 1922 (Sumbawa).
— Horman, Biol. Res. Endeavour,
vol. 5, ^{pt. 2, June 15,} p. 288, 1926 (compiled);

Rec. Indian Mus., vol. 30, pt. 2, p. 187,
fig. 6, July 1928 (Andamans). —

→ Weber and Beaufort, Fishes Indo
— Cape Austral. Archip., vol. 5, p. 165, fig.
(Mergent 6, 1929 (Singapore, Madura, Celebes,
Saleyer, Rotti, Aru, South New
Guinea). — McCulloch, Austral.

Band 20, 1870, p. 784 (Red Sea). — Capistrano.

Ann. Soc. Sci. Lisbon, 1871, p. 200 (n. 6, 1929).

Salazar,

Rec. Indi
→ fig. 6, Jul
→ Weber ad

Depth $1 \frac{7}{8}$ to $2 \frac{1}{10}$; head $3 \frac{1}{3}$ to $3 \frac{4}{5}$, width $1 \frac{7}{8}$ to $2 \frac{1}{8}$. Snout
 $1 \frac{1}{5}$ to $1 \frac{2}{5}$; eye $3 \frac{3}{4}$ to 5, $2 \frac{3}{4}$ to $\overset{2}{5}$ in snout, $1 \frac{1}{5}$ to $\overset{2}{1 \frac{4}{5}}$ in
interorbital; teeth $20 \overset{to 22}{\times}$ in each jaw; maxillary $3 \frac{2}{3}$ to $4 \overset{2/5}{\times}$ in head; interorbital
 $2 \frac{4}{5}$ to $3 \frac{1}{5}$, convexly elevated; opercle, preopercle flange and humeral
arch with rather obsolete striae. Gill rakers $6 \overset{to 8}{\times} + 13 \overset{or 14}{\times}$, low, small points.

Scales small, ovoid, circuli extremely fine; apical denticles II to
 $25 \overset{to 12}{\times}$, with 6 \times series of basal elements transversely as low cusps.

D. IX, 25, $\overset{to}{\times}$ 26, $\overset{1/2}{\times}$, ninth spine $1 \frac{7}{8}$ to 2 in head, first ray $1 \overset{1}{\times} \frac{1}{5}$
to $1 \frac{4}{5}$; A. III, 23, $\overset{6}{\times}$ to $25 \overset{6}{\times}$, $\overset{1}{\times}$, third spine $2 \frac{1}{3}$ to $2 \frac{2}{3}$, first ray
 $1 \frac{4}{5}$ to $2 \overset{1/10}{\times}$; caudal deeply emarginate, lunate, $2 \overset{1/8}{\times} \frac{2}{5}$ to $2 \frac{2}{3}$ in combined head
and body; least depth of caudal peduncle $2 \overset{1/2}{\times} \frac{3}{5}$ to $2 \frac{7}{8}$ in head; pectoral
I to $1 \frac{1}{6}$; ventral $1 \overset{1/5}{\times}$ to $1 \frac{1}{3}$; caudal spine $2 \frac{7}{8}$ to 5.

2486

Mus. Mem., no. 5, pt. 2, p. 284, Sep.
10, 1929 (reference).

Achirus maculatus ^{Kuhl and Van Hasselt, in} Bleeker, Nat.
Geneesk. Arch. ~~Indisch~~ Ned.
Indië, vol. 2, p. 509, 1845 (type
locality: Batavia).

~~Pardachirus~~

Achirus barbatus (not Lacépède?)
Thiollière, Faune Woodlark, p.
210, 1857 (Woodlark Island).

Achirus napai (Montrouzier)
Thiollière, Faune Woodlark, p.
210, 1857 (name in ~~xxxx~~ synonymy).

Pardachirus marmoratus (not
Lacépède?) Kner, Reise Novara, Fische,
p. 290, 1865.

We think the specimens listed below are likely the Acanthurus
pyroferus Kittlitz. According to Valenciennes the figure is 154mm. long,
snout rather pointed, color brown, caudal and anal blackish with yellow
border to former and with yellow, vertical, shoulder patch. However none
of our examples have the "caudal with a broad yellow posterior margin"
as Günther translates. It is likely his Acanthurus tennantii is the same,
though the dorsal is given with 23 soft rays and the anal with 22 his
specimen was a skin but 127mm. long. It is also said to have the caudal
with "a broad white margin".

~~Asseraggodes persimilis (Günther)~~

Solea persimilis Günther, Mus.

Godeffroy, Jour., vol. 8, pt. 16, p. 346,
1909 (type locality: New Pomerania).

Asseraggodes persimilis Fowler, Mem.

Bishop Mus., vol. 10, p. 94, 1928
(compiled; error).

2488

Depth $2\frac{1}{3}$ to $2\frac{1}{2}$; head $3\frac{2}{3}$ to $4\frac{1}{2}$, width 3 to $3\frac{1}{4}$. Snout end to lower ~~eye~~ ^{orbit} $2\frac{7}{8}$ to $3\frac{2}{5}$ in head; lower ~~eye~~ ^{orbit} $5\frac{1}{2}$ to 7, $1\frac{3}{4}$ to 2 in snout; upper ~~eye~~ ^{orbit} $\frac{1}{5}$ to $\frac{2}{3}$ in advance of lower orbit; mouth cleft reaches scarcely to or $\frac{2}{5}$ in lower eye, curved, length $2\frac{4}{5}$ to $3\frac{1}{4}$ in head from snout end; interorbital $1\frac{1}{4}$ to 2 in lower orbit, slightly concave. Gill rakers vestigial or absent; gill filaments long as lower orbit.

Scales 68 to 71 in lateral line from over gill opening to caudal base (8 or 9 more forward on head to dorsal intersection); 33 or 34 above, 36 to 38 below. Vertical fins all scaly basally. Scales all ctenoid. Scales with 34 to 45 basal radiating striae; 5 to 9 slender apical denticles; circuli fine. Lateral line complete, present on both sides.

D. 64 to 66, fin height $1\frac{1}{2}$ to

1 $\frac{3}{5}$ in head; A. 50 or 51, fin ²⁴⁸⁹
height $1\frac{1}{2}$ to $1\frac{3}{5}$; caudal $1\frac{1}{5}$ to
 $1\frac{1}{4}$, convex behind; depth of
caudal peduncle 2 to $2\frac{1}{8}$; ventral
2 to $2\frac{1}{3}$.

Variably brown to russet or
dark brown on right side, with
innumerable very variable dark
to blackish rings, many with
black central dot, some often
enclosing pale or gray white
blotches. Along fins marginally
rings smaller, more numerous and
crowded. In young coloration all
made up of small-dark spots
with paler areas and fins with
dark to blackish spots. Left side
whitish, fins brownish submarginally.

Andamans, Malaya, East
Indies, Philippines, Micronesia
Melanesia, Polynesia, China, Riu
Kiu, Queensland.

20312. Bolinao Bay. May 10, 1909.²⁴⁹⁰
Length 108 mm.

1 example. Capunay fugan, Mindanao.
May 9, 1908. Length 65 mm.

11342, 11343. Cebu market, Cebu.
April 4, 1908. Length 150 to 170 mm.

15487. Cebu market. March 26, 1909.
Length 141 mm.

21754. Cebu market. March 28, 1909.
Length 64 mm.

5725. Cebu market. August 12, 1909.
Length 171 mm.

11563 to 11566. Cebu market.
August 26, 1909. Length 70 to 150 mm.

13868 [1877]. Cebu market.
August 31, 1909. Length 64 mm.

5161. Jolo market, Jolo. March 6,
1908. Length 165 mm.

8824. Malochin River, Pagapas²⁴⁹¹
Bay, Luzon. February 20, 1909. Length
128 mm.

12640, 12641. Santiago River, Pagapas
Bay, Luzon. February 20, 1909.
Length 160 to 161 mm.

Pardachinus

~~Aseraggodes~~ poropterus (Bleeker) 2492

Achirus poropterus Bleeker, Natuurk.
Tijds. Nederl. Indië, vol. 1, p. 410, 1851
(type locality: Batavia; Padang);
Atlas Ichth. Ind. Néerl., vol. 6, p. 24,
pl. (15) 246, fig. 2, 1866-72 (Java,
Sumatra, Nias, Amboina). — Jouan,
Mém. Soc. Sci. Nat. Cherbourg, vol. 13,
p. 275, 1867 (). —

Regan, Trans. Zool. Soc. London, ser. 2,
vol. 12, Zool., pt. 3, p. 235, 1908 (Malaku,
Maldives, 27 fathoms). — Weber and
Beaufort, Fishes Indo Austral. Archip.,
vol. 5, p. 162, fig. 44, 1929 (Simalur;
Java; Karakelang; Flores; Ceram).

Aseraggodes poropterus Kaup, Archiv
Naturges., vol. 24, pt. 1, p. 103, 1858
(reference).

Solea (Achirus) poropterus Klunzinger,
Sitzs. Ber. Akad. Wiss. Wien, Math. nat.
Kl., vol. 80, p. 408, 1879 (1880) (Port
Darwin).

Solea (Achirus) poroptera Macleay, Proc.
Linn. Soc. New South Wales, vol. 9, p. 51,
1884.

Pardachirus poropterus Norman,
Rec. Indian Mus., vol. 30, pt. 2,
p. 188, July 1928 (diagnosis in
key).

Body largely uniform chocolate brown. Usually large triangular darker area at upper humeral region, often only as angular and usually enclosing an area twice or extent of eye, sometimes rarely less than eye. Iris brownish. Edge of opercular membrane along gill opening often dusky narrowly. Iris brown. Dorsals and anals largely dusky brown, deeper than body, each sometimes show narrow pale blue gray basal line and edges of fins brighter blue narrowly. Caudal largely dusky medially and behind, base whitish or pale gray and upper and lower edges of fins brownish. Pectoral dusky or brownish largely, terminally above with broad pale blotch, light brown. Ventral neutral dusky. Groove and edges of caudal spine blackish.

2494

Achirus thepassi Bleeker, Naturk.
Tijds. Nederl. Indië, vol. 6, p. 500,
1854 (type locality: Amboina);
Atlas Ichth. Ind. Néerl., vol. 6, p.
24, pl. (15) 246, fig. 4, 1866-72
(Celebes; Amboina).

Solea thepassi Günther, Cat. Fishes
Brit. Mus., vol. 4, p. 478, 1862
(no locality). — Smith and Seale,
Proc. Biol. Soc. Washington, vol.
19, June 4, 1906, p. 82 (Mindanao).

Pardachirus rautheri (Chabanaud) ²⁴⁹⁵

Achirus rautheri Chabanaud, Zool.
Anzeiger, vol. 93, pt. 3/4, 1931, p. 95,
figs. 1-2 (type locality: Port Darwin,
North Australia).

2496

Genus Phyllichthys McCulloch

Phyllichthys McCulloch, Mem.

Queensland Mus., vol. 5, p. 66, July 10,
1916. (Type Synaptura sclerolepis
Macleay).

Dorsal and anal united with caudal.
Ventral fins more or less joined
by membrane, right one completely
joined to anal.

2497

Phyllichthys punctatus McCulloch

Phyllichthys punctatus McCulloch,
Mem. Queensland Mus., vol. 5, p. 67,
July 10, 1916 (type locality: Busselton,
South West Australia); Austral.
Mus. Mem., no. 5, pt. 2, p. 286, Sep.
10, 1929 (reference). — Horman, Biol.
Res. Endeavour, vol. 5, pt. 5, p. 297,
June 15, 1926 (compiled).

2499

Phyllichthys sclerolepis (Macleay)

Synaptura sclerolepis Macleay, Proc.
Linn. Soc. New South Wales, Vol. 2, p.
363, pl. 10, fig. 4, 1878 (type locality:
Port Darwin, Northern Territory);
vol. 6, p. 137, 1882.

Phyllichthys sclerolepis McCulloch,
Austral. Mus. Mem., vol. 5, pt. 2,
p. 286, Sep. 10, 1929 (reference).

Mem. Queensland Mus., vol. 5, p. 66,
pl. 9, fig. 2, text-fig. 4, 1916 (

— Horman, Biol. Res. Endeavour,
vol. 5, pt. 5, p. 297, June 15, 1926
(compiled). — McCulloch,

2499

Genus Achiroides Bleeker

Achiroides Bleeker, Naturk. Tijds.
Nederl. Indië, vol. 1, pp. 404, 411, 1850.
(Type Achiroides melanorhynchus
Bleeker, designated by Jordan, Genera
of Fishes, pt. 2, p. 247, 1919.)

Eurypleura Kaup, Archiv Naturges.,
vol. 24, pt. 1, p. 100, 1858. (Type Plagusia
melanorhynchus Bleeker, designated
by Jordan, Genera of Fishes, pt. 2,
p. 282, 1919.)

Snout not forming prominent hook.
Eyes on right side. Mouth small,
twisted, somewhat curved. Minute
teeth in jaws of left side only. Front
nostril of colored side at end of
tube, hind one with cutaneous flap;
nostril of blind side a short tube.
Gill membranes united, free from
isthmus. Scales feebly stenoid on both
sides of body. One straight axial
lateral line on both sides. Scales

of blind side round corner of mouth and on chin replaced by fleshy tentacles. Lips of colored side with similar but shorter tentacles. Dorsal begins on snout. Dorsal and anal confluent with caudal. Rays of vertical fins divided or split at tips only. No pectorals. Ventrals short, rather broad based, free from each other and from anal.

Few species in Malaya, East Indies and Cambodia.

2501

Achiroides melanorhynchus (Bleeker)

Plagusia melanorhynchus Bleeker,
Natuurk. Tijds. Ned. Indië, vol. 1, p.
15, 1850 (type locality: Bandjermassing,
Borneo).

Achiroides melanorhynchus Bleeker,
Verhand. Batavia. Genoots., no. 9, vol.
24, p. 19, 1852 (Bandjermassing).

Achiroides melanorhynchus Bleeker,
Atlas Ichth. Ind. Néerl., vol. 6, p. 26,
pl. (15) 266, fig. 6, 1866-72 (Sumatra;
Borneo). — Weber and Beaufort, Fishes
Indo Austral. Archip., vol. 5, p. 180,
fig. 49 (head), 1929 (Borneo). — Chevey,
Inst. Océan. Indo Chine, 19^e note,
p. 28, Aug. 25, 1932 (Cochin China).

Eurypleura melanorhyncha Kaup, Archiv
Naturges., vol. 24, pt. 1, p. 100, 1858
(reference).

2502

Synaptura melanorhyncha Günther,
Cat. Fishes Brit. Mus., vol. 4, p. 487,
1862 (Gambaja). — Volz, Zool.
Jahrb. Abth. Syst., vol. 19, p. 380,
1903 (). — Tirant,
Serv. Océan. Pêch. Indo Chine, 6^e note,
p. 172, 1929 (Thudanmot).

Synaptura achira Duncker, Mitteil.
Naturh. Mus. Hamburg, vol. 21, p. 168,
1904.

2503

Achiroides leucorhynchus Bleeker

Achiroides leucorhynchus Bleeker, Ned.
Tijds. Ned. Indië, vol. 1, p. 411, 1850 (1851)
(type locality: Surakarta, central Java, in ^{rivers}),
Verh. Batavia. Genoot., no. 9, vol. 24, p.
20, 1852 (Surakarta).

Achiroides leucorhynchus Bleeker, Atlas
Ichth. Ind. Néerl., vol. 6, p. 26, pl. (13)
264, fig. 3, 1866-72 (Java). — Weber
and Beaufort, Fishes Indo Austral.
Archip., vol. 5, p. 181, 1929 (compiled).

Eurypleura leucorhyncha Kaup, Archiv
Naturges., vol. 24, pt. 1, p. 100, 1858
(note).

Synaptura leucorhyncha Günther, Cat.
Fishes Brit. Mus., vol. 4, p. 486, 1862
(no locality).

Genus Heteromycterus Kaup

Heteromycterus Kaup, Archiv
Naturges., vol. 24, pt. 1, p. 103, 1858.
(Type Heteromycterus capensis
Kaup, monotypic.)

Anate Jordan and Starks, Proc.
U. S. Nat. Mus., vol. 31, p. 228, 1906.
(Type Archius japonicus Schlegel,
orthotypic.)

Monodichthys Chabanaud, Bull.
Mus. Hist. Nat. Paris, 1925, p. 356.
(Type, Monodichthys proboscideus
Chabanaud, monotypic.)

748
4838. Cape Kait, Libani Island,
Celebes. December 29, 1909. Length 104 mm.
21010. Limbe Strait, Celebes. November
10, 1909. Length 87 mm.

Snout prolonged into hook.²⁵⁻⁰⁵
Anterior nostril of blind side
dilated and fringed. Inter-
branchial septum perforated.
Dorsal rays extend to end of
snout. Ventrals markedly
asymmetrical, on right side
median, elongate and joined to
anal.

la²

Dorsal and anal confluent with caudal.
Pectoral present, well
developed or rudimentary.

Phyllichthys.

Pectoral absent. Achiroides.

ra²

2506

Heteromycterus capensis Kaup

Heteromycterus capensis Kaup, Archiv
Naturges., vol. 24, pt. 1, p. 103, 1858
(type locality: no locality [= Cape of
Good Hope]). — Chabanaud, Ann.
Mag. Nat. Hist., ser. 9, vol. 20, p.
525, nov. 1927 (type).

Lichius capensis Boulenger, Marine
Investig. South Africa, vol. 1, p. 2,
1898 (False Bay); — Barnard, Ann.
South African Mus., vol. 21, pt. 1, p. 404,
June 1925 (Saldanha Bay, False Bay,
East London).

— Von Bonde, Fisher. Mar. Biol. Surv.
South Africa, Rep. no. 2, pt. 1, p. 17, 1922
(reference).

2507

Heteromycteris hartzfeldii (Bleeker)

Achirus hartzfeldii Bleeker, Natuurk.
Tijds. Nederl. Indië, vol. 4, p. 123,
1853 (type locality: Amboina). —

Evermann and Seale, Bull. Bur. Fisher.,
vol. 26, p. 106, 1906 (1907) (Philippines).

Achirus hartzfeldii Bleeker, Atlas
Ichth. Ind. Néerl., vol. 6, p. 25, pl.
(15) 246, fig. 1 (Sumatra, Amboina,
Flores, Timor). — Weber and Beaufort,
Fishes Indo Austral. Archip., vol. 5,
p. 160, fig. 45, 1929 (Malacca Straits,
Bawean, Obi, British India), p.
429 (reference).

Liseraggodes hartzfeldii Kaup, Archiv
Naturgesch., vol. 24, pt. 1, p. 103, 1858
(reference). — Jordan and Snyder,
Ann. Zool. Japon., vol. 3, p. 122,
1901 (Nagasaki).

Solea hartzfeldii Günther, Cat. Fishes
Brit. Mus., p. 471, 1862 (no locality). —

~~Kyström's Fisk. Svensk. Vatt. Abh.
Årsh. Stockholm, vol. 13, of 4, p.
42, 1887 (Nagasaki).~~

2508

Solea hartzfeldi Evermann and Seale,
Bull. Bur. Fisher., vol. 26, p. ,
1906 (Bacon).

Heteromycterus hartzfeldi Chabanaud,
Ann. Mag. Nat. Hist., ser. 9, vol. 20,
p. 526, 1927 (paratype).

2509

Depth $2\frac{1}{4}$ to $2\frac{3}{4}$; head $3\frac{4}{5}$ to 4, width $4\frac{1}{4}$ to $4\frac{1}{2}$. Snout end to lower orbit $2\frac{1}{8}$ to $2\frac{1}{4}$ in head; lower orbit $5\frac{1}{2}$ to 6, 2 to $2\frac{1}{3}$ in snout; upper orbit advanced $\frac{1}{2}$ to $\frac{2}{3}$ of lower orbit; mouth cleft extends $\frac{2}{5}$ to $\frac{1}{2}$ below lower eye, curved, length $3\frac{2}{3}$ to 4 in head, flap of upper jaw well overlapping mandible; interorbital $\frac{3}{5}$ to $\frac{2}{3}$ of lower orbital diameter, concave.

No gill rakers; gill filaments equal lower orbit.

Scales 80 to 83 in lateral line from above gill opening to caudal base (10 or 11 more forward on head to dorsal intersection); 28 or 29 above, 24 to 26 below. Scales all stenoid. Scales with 10 to 12 basal radiating striae; 11 or 12 slender divergent apical denticles, with 3 or 4 transverse series of basal elements; circuli fine. Lateral line complete, present on both sides.

D. 84 to 90, fin height 2 to $2\frac{1}{4}$ in

head; A. 59 to 62, fin height ²⁵¹⁰
 $1\frac{4}{5}$ to $2\frac{1}{2}$; caudal $1\frac{1}{8}$ to $1\frac{1}{5}$,
convex behind; least depth of
caudal peduncle $2\frac{3}{5}$ to $2\frac{3}{4}$;
ventral $1\frac{7}{8}$ to $2\frac{1}{8}$.

Dark brown on right side,
mottled with still darker. Row
of 5 or 6 large ocelli on body
below dorsal base and row of
4 or 5 above anal base, also row
of 5 along lateral line axially,
these often double. Dark or
blackish borders of ocelli often
speckled or dotted with white.
Vertical fins frequently with
dark to blackish speckles. Orbits
dark slate. Left side whitish,
vertical fins with faint dark dots.

Malacca, East Indies, Philippines,
Japan.

2511

One example. Cotabato, below
mouth of Mindanao River,
Mindanao. May 20, 1908. Length
54 mm.

6 examples. Davao, Mindanao.
May 16, 1908. Length 70 to 86 mm.

8 examples. Hinunangan Beach,
Leyte. July 30, 1909. [1794] Length
31 to 77 mm.

1 example. Mantaguin Bay,
Palawan. April 2, 1909. Length 70
mm.

1 example. [823] Port Bais, Negros.
March 31, 1908. Length 70 mm.

1 example. Subig Bay, Zamboanga.
January 7, 1908. Length 78 mm.

1 example. Verde del Sur, Palawan.
April 6, 1909. Length 50 mm.

15710. Sanguisapo Island.
February 24, 1908. Length 71 mm.

22768 ~~to~~ 22770. Sitanki Reef.
September 24, 1909. Length 53 to 88 mm.

3921. Sitanki wharf. February 26,
1908. Length 107 mm.

3912. South Lagoon, Tournindao.
February 26, 1908. Length 81 mm.

16021. Sulada Island. September 18,
1909. Length 87 mm.

19228. Tapiantana Island. September
13, 1909. Length 96 mm.

472. Tomahu Island. December 12, 1909.
Length 85 mm.

4774. Tournindao Island. February 26,
1908. Length 80 mm.

8673. Tutu Bay, Jolo Island, second
anchorage. September 19, 1909. Length 92
mm.

22769. Sitanki Reef. Sep. 24, 1909.
Length 88 mm.

2512

Heteromycteris oculus (Alcock)

Solea oculus Alcock, Journ. Asiatic Soc. Bengal, vol. 58, pt. 2, p. 285, pl. 18, fig. 3, 1889 (type locality: south west of Puri 32 miles, Bengal Bay, 7 fathoms). — Johnstone, Ceylon Pearl Oyster Fish., Suppl. Rep. 15, p. 206 (1904).

Solea (Achirus) oculus Alcock, Journ. Asiatic Soc. Bengal, vol. 65, pt. 2, p. 329, 1896.

Heteromycteris oculus Chabanaud, Ann. Mag. Nat. Hist., ser. 9, vol. 20, p. 526, 1927 (Bengal Bay).

— Horman, Rec. Indian Mus., vol. 30, pt. 2, July 1928 (p. 190, fig. 8) (Hebran, Ganjam, Puri, Sundarbans, 9 to 14 fathoms).

2513

Heteromycteris japonicus (Schlegel)
Achirus japonicus Schlegel, Fauna
Japonica, Poiss., pts. 10-14, p. 186,
1846 (type locality: seas of Japan).

Solea japonica Günther, Cat. Fishes
Brit. Mus., vol. 4, p. 471, 1862
(compiled).

Aseraggodes japonicus Jordan and
Snyder, Annot. Zool. Japon. Tokyo,
vol. 3, p. 122, 1901 (^{Misaki}
reference).

Urosalpinx japonica Jordan and
Evermann, Proc. U. S. Nat. Mus.,
vol. 25, p. 366, 1902 (Keelung, Formosa).

Amate japonica Jordan and Starks,
Proc. U. S. Nat. Mus., vol. 31, p. 228,
fig. 23, 1906 (Wakanoura, Tokyo,
Tsuringa, Misaki, Kobe, Nagasaki).
— Snyder, Proc. U. S. Nat. Mus., vol.
42, 1912, p. 440 (Tokyo, Tanegashima,
Kagoshima, Nagasaki). — Jordan,
Tanaka, Snyder, Journ. College Sci.

Tokyo, vol. 33, p. 322, ^{fig. 281,} 1913 (reference)
— Izuka and Matsura, Cat. Zool.
Spec. Mus. Tokyo, Vertebr., p. 115,
1920 (Tokyo).

Heteromycteris japonicus Reeves, Journ.
Pan Pac. Res. Inst., vol. 2, no. 3, p.
14, July - Sep. 1927 (name).

Heteromycteres japonica Schmidt and
Lindberg, Bull. Acad. Sci. U. R. S. S.,
1930, p. 1149 (Tsuringa).

Heteromycteris japonica Schmidt,

Chabanaud, Ann. Mag. Nat. Hist., ser. 9,
vol. 20, p. 527, nov. 1927 (southern Japan)

Nyström, Ark. Svensk. Vet. Vetensk.
Handl. Stockholm, vol. 13, aft. 4, no. 4,
p. 42, 1887 (Nyström). ~~Smith and Pope~~
~~Proc. U. S. Nat. Mus., vol. 1, p. 1, 1888~~

Aseraggodes hartzfeldii Jordan and
Snyder, Annot. Zool. Japon., vol. 3, p. 122,
1901 (reference).

2514

Tokyo, vol. 33, p. 322, ^{fig. 281,} 1913 (reference)
— Izuka and Matsura, Cat. Zool.
Spec. Mus. Tokyo, Vertebr., p. 115,
1920 (Tokyo).

Heteromycteris japonicus Reeves, Journ.
Pan Pac. Res. Inst., vol. 2, no. 3, p.
14, July - Sep. 1927 (name).

Heteromycteres japonica Schmidt and
Lindberg, Bull. Acad. Sci. U. R. S. S.,
1930, p. 1149 (Tsuringa).

Heteromycteris japonica Schmidt,
Trans. Pac. Comm. Acad. Sci. U. S. &
R., vol. 2, p. 128, 1931 (Misaki).

Achirus hartzfeldi (not Bleeker)
Nyström, Bih. Svensk. Vet. Akad.
Handl. Stockholm, vol. 13, aft. 4, no. 4,
p. 42, 1887 (Nyström).

~~Proc. U. S. Nat. Mus., vol. 1, p. 1, 1872~~

Aseraggodes hartzfeldii Jordan and
Snyder, Annot. Zool. Japon., vol. 3, p. 122,
1901 (reference).

round 28, abth. 1, 1860, 7.145 (Java).

Tetragonopterus (Rabdophorus) speculum

Blutbeere, Little Schk. Ind. Reel., vol. 9.

Solea harzfeldii Smith and Pope,²⁵¹⁵
Proc. U. S. Nat. Mus., vol. 31, p.
498, 1906 (Kagoshima).

Mem. Mus. Comp. Zool., vol. 35, 1912, p. 117 (Rikitea, Mangareva, Gambier Islands). $\frac{1}{m}$ Pellegrin, Bull. Soc. Zool. France, vol. 39, 1914, p. 229 (Kossi Bé, Madagascar). $\frac{1}{m}$ Melpes, Ceylon Administrat. Rep., 1921, pp. E7, E8.

Lethrinus longirostris Playfair, Fishes of Zanzibar, 1866, p. 44, pl. 7, fig. 2.

Zanzibar. $\frac{1}{m}$ Boulenger, Proc. Zool. Soc. London, 1887, p. 658 (Muscat).

Lethrinus ramak (not Forsk.)

Klunzinger, Verhandl. zool. botan.

Gesellsch. Wien, vol. 20, 1870, p. 752 (Red Sea).

Lethrinus acutus Klunzinger, Fische

Roth. Meer., 1884, p. 39, pl. 7, fig. 1. Roseir.

$\frac{1}{m}$ Steindachner, Denkschr. Akad. Wiss.

Wien, vol. 71, pt. 1, 1907, p. 133 (Tamarida,

Shotra). $\frac{1}{m}$ Fowler, Proc. Acad. Nat. Sci.

Philadelphia, 1925, p. 242 (Delagoa Bay).